The Architects' JOURNAL for October 30, 1958

# ARCHITE OURNA



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contents

every issue does not necessarily contain all these contents, but they are the regular features which continually recur

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BUILDING URRENT

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Major Buildings described:

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Vanted and Vacant

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\*A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ii one week, Il to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

	AA	Architectural Association, 34/6, Bedford Square, W.C.1.  Association of Art Institutions. Secy.: W. L. Stevenson,
ı	ATOG	College of Art, Hope Street, Liverpool 1. Royal 1826
ŀ	ABS	Architects' Benevolent Society. 66, Portland Place, W.1. Langham 5533
ı	ABT	Association of Building Technicians. 1, Ashley Place, S.W.1. Victoria 0447-8
ı	ACGB	Arts Council of Great Britain. 4, St. James's Square, S.W.1. Whitehall 9737
l	ADA	Aluminium Development Association. 33, Grosvenor Street, W.1. Mayfair 7501/8
ı	ARCUK	Architects' Registration Council. 68, Portland Place, W.1. Langham 5861
l	BAE	Board of Architectural Education. 66, Portland Place, W.1. Langham 5721
l	BC	Building Centre. 26, Store Street, Tottenham Court Road, W.C.1. Museum 5400
ı	BCC	British Colour Council. 13, Portman Square, W.1. Welbeck 4185
l	BCCF	British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5. Ealing 9621
ı	BCIRA	British Cast Iron Research Association. Alvechurch, Birmingham. Redditch 716
ı	BDA	British Door Association. 10, The Boltons, S.W.10. Fremantle 8494
l	BEDA	British Electrical Development Association. 2, Savoy Hill, W.C.2. Temple Bar 9434
١	BIA	British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2.
ı		Glasgow Central 2891
ı	BID	Building Industries Distributors. 52, High Holborn, W.C.1. Chancery 7772
١	BINC	Building Industries National Council. 11, Weymouth Street, W.1. Langham 2785
1	BOT	Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1.
ı		Trafalgar 8855
ı	BRS	Building Research Station. Bucknalls Lane, Watford: Garston 4040
1	BSA	Building Societies Association. 14, Park Street, W.1. Mayfair 0515
ı	BSI	British Standards Institution. British Standards House, 2, Park St., W.1. Mayfair 9000
I	BTE	Building Trades Exhibition. 32, Millbank, S.W.1. Tate Gallery 8134
ı	CABAS	City and Borough Architects Society. C/o S. A. G. Cook, A.R.I.B.A., Borough
ı		Architect and Director of Housing, Town Hall, High Holborn, W.C.1.
١		Holborn 3411
ı	CAS	County Architects' Society. C/o S. Vincent Goodman, F.R.I.B.A.,
ı		Shire Hall, Bedford. Bedford 67444
1	CCA	Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1. Belgravia 6661
1	CDA	Copper Development Association. 55, South Audley Street, W.1. Grosvenor 8811
1	COID	Council of Industrial Design. 28, Haymarket, S.W.1. Trafalgar 8000

Council of Industrial Design. 28, Haymarket, S.W.1. Trafalgar 8000 Council for the Preservation of Rural England. 4, Hobart Place, S.W.1. Sloane 4280 Coal Utilization Council. 3, Upper Belgrave Street, S.W.1. Sloane 9116 Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1. Reading 72255 Design and Industries Association. 13, Suffolk Street, S.W.1. Whitehall 0540 English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1. Regent 4448 CPRE CVE DIA EJMA

English Place-Name Society. 7, Selwyn Gardens, Cambridge. Faculty of Architects and Surveyors. 68, Gloucester Place, W.1. **EPNS** Welbeck 9966 FASS Federation of Associations of Specialists and Sub-Contractors,

Fibre Building Board Development Organization Ltd. (Fidor), Stafford House,
Norfolk Street, W.C.2. Covent Garden 3008 Norfolk Street, W.C.2. Covent Garden 3008
Federation of British Industries. 21, Tothill Street, S.W.1. Whitehall 6711
Forestry Commission. 25, Savile Row, W.1. Regent 0221
Federation of Coated Macadam Industries. 37, Chester Square, S.W.1. Sloane 1002 The Flush Door Manufacturers Association Ltd. Trowell, Nottingham. Ilkeston 623
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Langham 4341

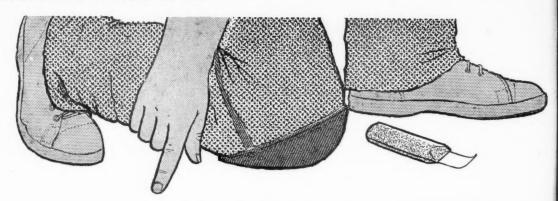
**GPDA** Gypsum Plasterboard Development Association. 11, Ironmonger Lane, E.C.2. Monarch 8888 GC Gas Council. 1, Grosvenor Place, S.W.1.

Sloane 4554 Belgravia 3081 Georgian Group. 2, Chester Street, S.W.1. Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1. GG HC IAAS Whitehall 2881 Housing Centre. 13, Sunoik Street, Fail Wall, S. W. 1.
Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1.
Belgravia 3755 ICA ICE

Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1. Grosvenor 6186
Institution of Civil Engineers. 1, Great George Street, S.W.1. Whitehall 4577
Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2. Temple Bar 7676 Illuminating Engineering Society. 32, Victoria Street, S.W.1. Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1. Abbey 5215 Sloane 8266

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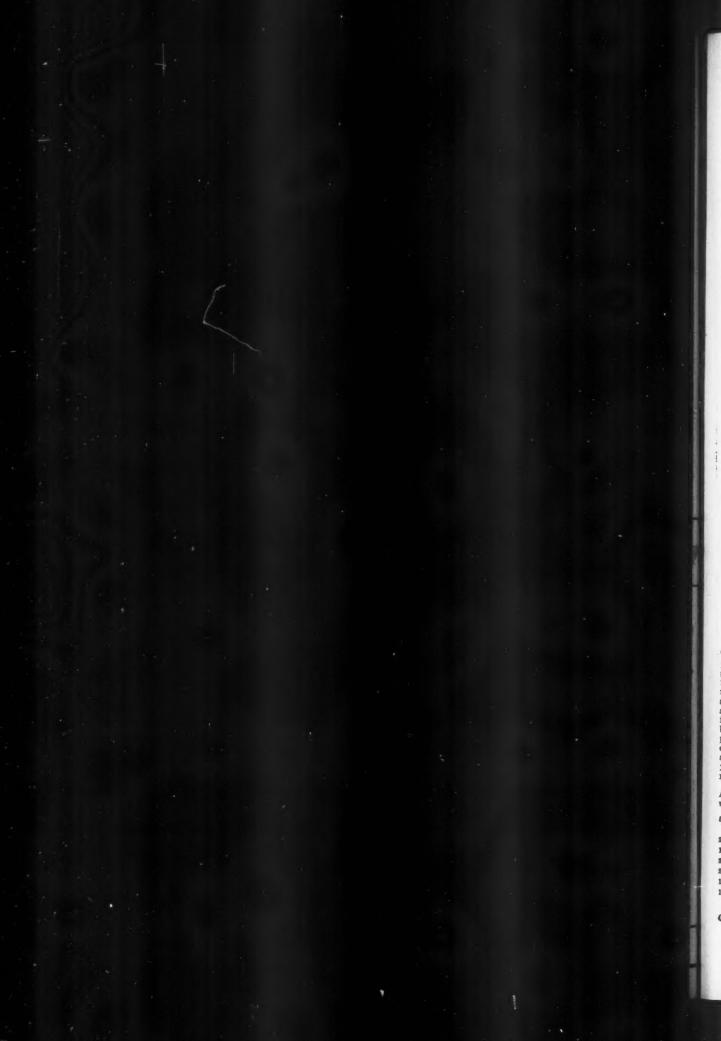
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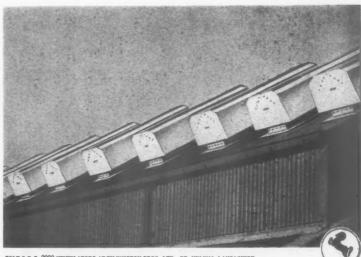
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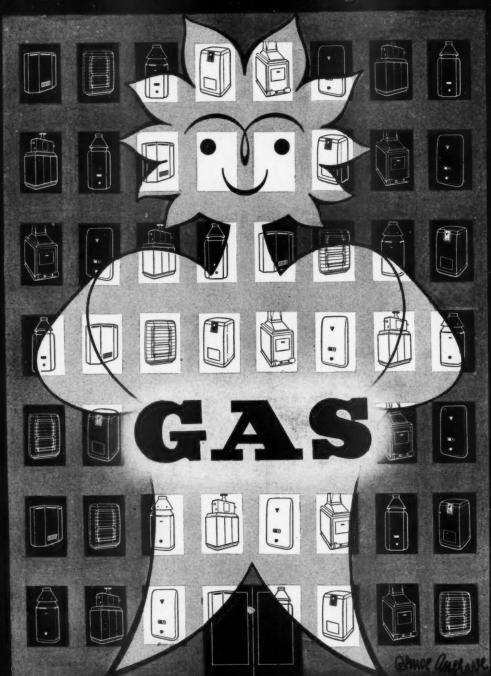
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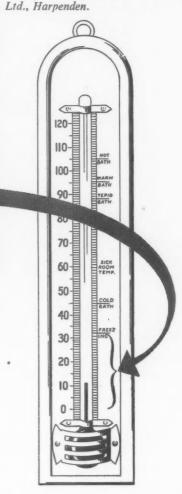
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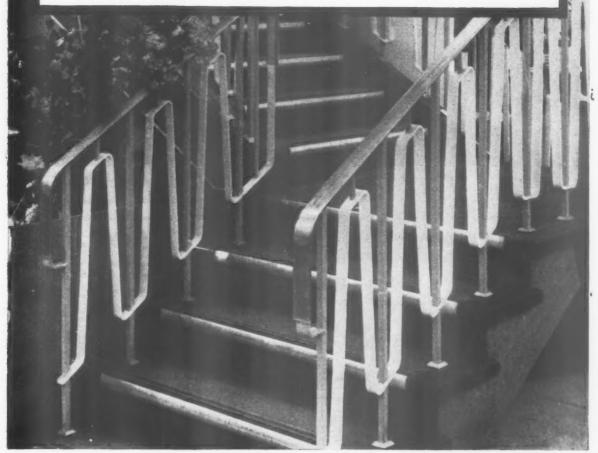
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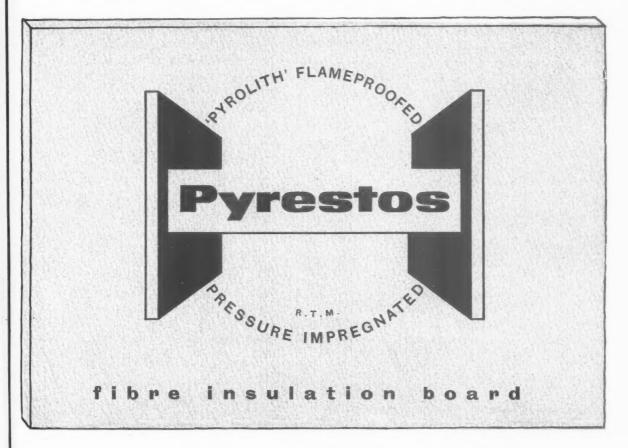
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For capacities above 10 gallons per hour using 220 secs and 950 secs oil. Gives clean combustion and 13% CO<sub>2</sub> at variable firing loads. Incorporates one small and one large air register, each with its own atomiser. On low load only the small burner is alight, at high load both are working at optimum efficiency. Large burner has tip shut off, arranged for hot oil circulation to start and self cooling on shut down.

## Type F Burner ON/OFF OPERATION

Available in capacities from 20 lbs. to 90 lbs. per hour, using 220 secs oil. Air/Oil ratios and pressures are factory set to give suspended intense flame with 13% CO<sub>2</sub>, and do not require further adjustment on site.

# Type G Burner ON/OFF OPERATION

Generally similar to type F burner, but designed for use with 40 secs oil.

# Type M Burner FOR HORIZONTAL SHELL BOILERS

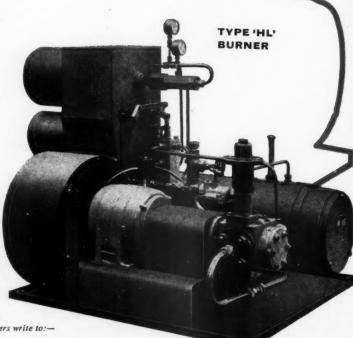
Spill return type atomiser with output range of 3 to 1. Specially developed air register to give clean narrow flame without impingement. Hot oil circulation to start and self cooling on shut down. Suitable for light and heavy fuel oils.

For booklets giving full details of these burners, also Riley Oil Fired Combustion Chambers and Air Heaters write to:—

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Riley pressure jet oil burners exploit higher air and oil pressures than generally obtain in present day practice. They are factory set to give high CO<sub>2</sub>, thus dispensing with the need for site adjustment.

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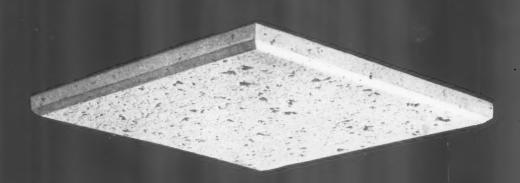
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# acoustic tile

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HIGH SOUND	ABSORPTION
GYPTONE Acoustic	Tiles fixed to 2" x 1" battens

at 12" centres

GYPTONE Acoustic Tiles stuck to concrete

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125	250	500	1000	2000	4000	
0.15	0.40	0.70	0.80	0.85	0.90	

FIRE PROTECTION

TOTALLY INCOMBUSTIBLE: Surface Spread of Flame CLASS

THERMAL INSULATION

Thermal conductivity k - 0.53

SIZE 12" square  $\frac{3}{4}$ " thick with square or bevelled edges; weight about  $l\frac{1}{2}$  lbs each tile

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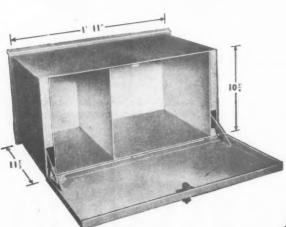
# Here's what every housewife wants



No need for the milkman to leave the milk on the doorstep. He lifts the flap—in go the bottles—and away he goes on his round. And if the housewife doesn't want her usual two bottles, she leaves a note in the compartment where it cannot be overlooked.

RE

When the housewife comes home, she drops the flap, removes the milk and bread, and the Hatch is ready for the grocer's boy when he calls. And no risk of telling the world that, as the parcel on the step shows, the family are not at home!



Constructed from "Zintec" pre-coated steel sheets. Divided into two compartments; inside door fitted with two 2" hinges and thumb-operated spring catch. Outside doors each fitted with two 2" hinges and handle. Finished in cream stove enamel.

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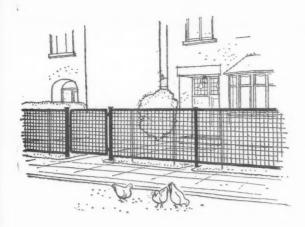
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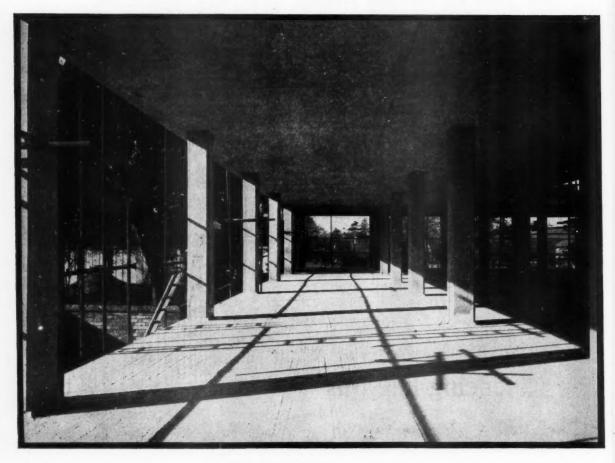
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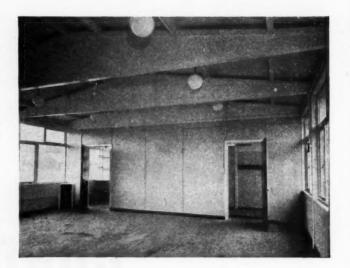
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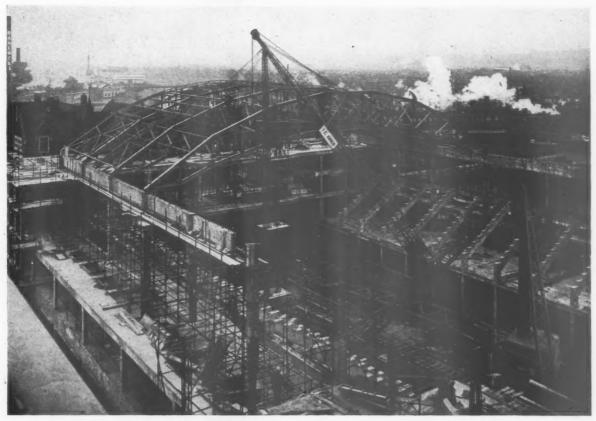
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A general view of the structure showing some of the 140 ft. roof trusses.



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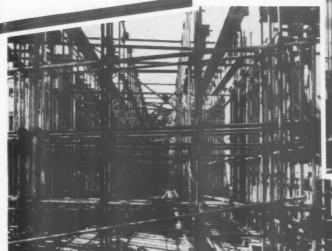
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work in progress



Reinforcing steel being fixed in Vierendeel girder

Scaffold Tube centering to Vierendeel girder



1st Floor of Warehouse show-ing Sovex chutes and fireproof partition



Front elevation showing screen to spiral staircase and Vierendeel Beam

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and

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Loading Dock showing precast ceiling units

Spiral staircase (precast) from below

Wherever the sign of Howard Farrow appears there is work in progress. These photographs illustrate the progressive stages in the building of the Farmiloe warehouse at Nine Elms, the Architects for which were J. M. Austin-Smith & **Partners** 

A folder giving a selection of Howard Farrow contracts covering a wide field of projects will gladly be sent on request.

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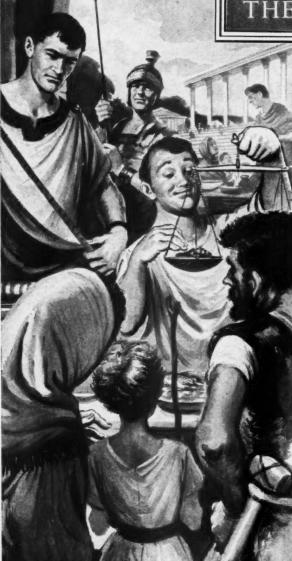
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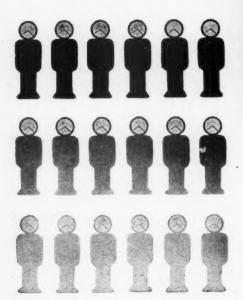
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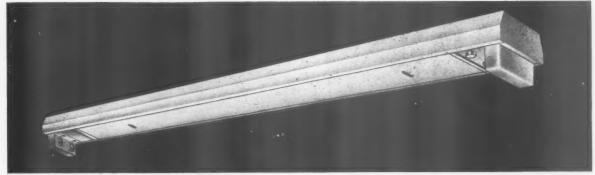
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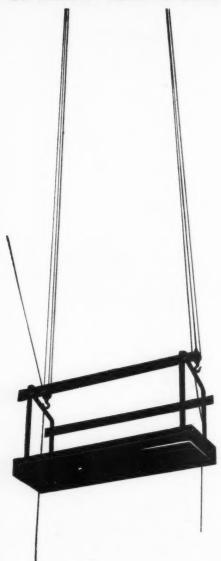


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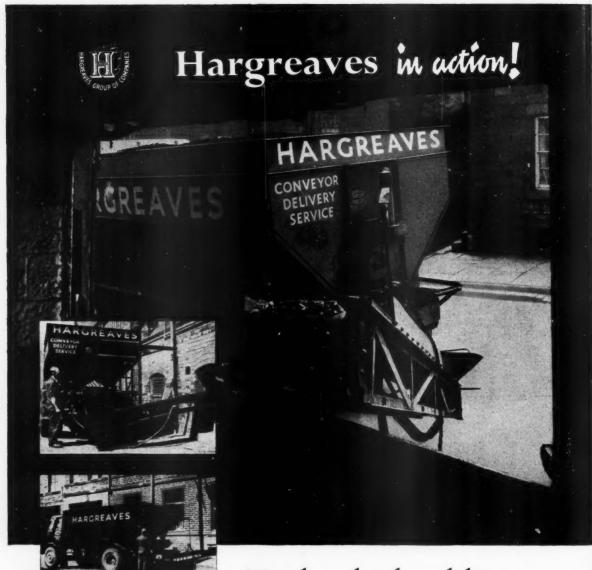
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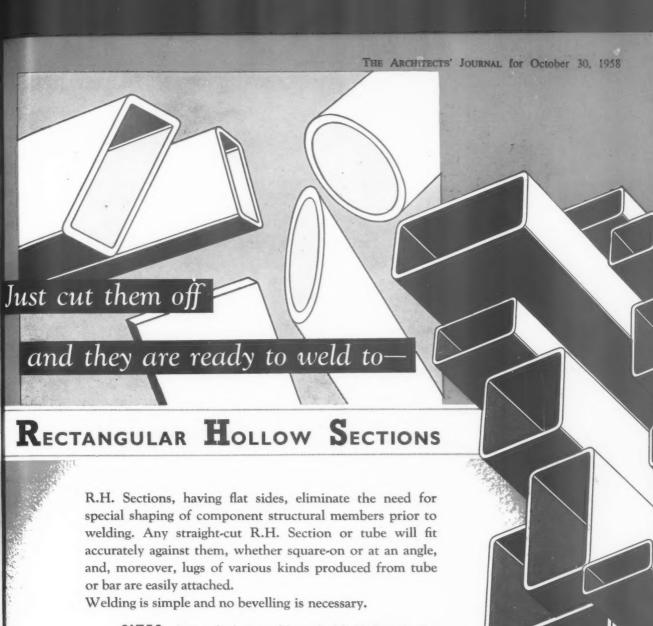




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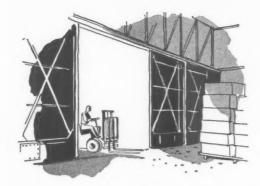
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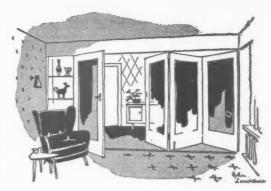
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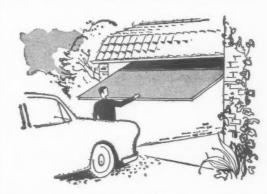
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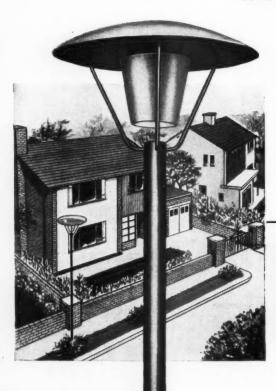
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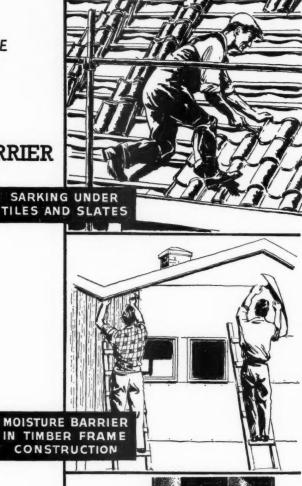
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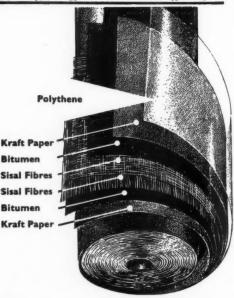
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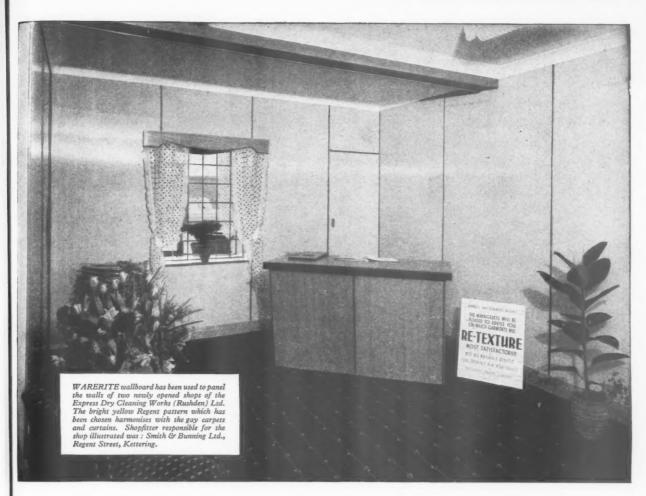
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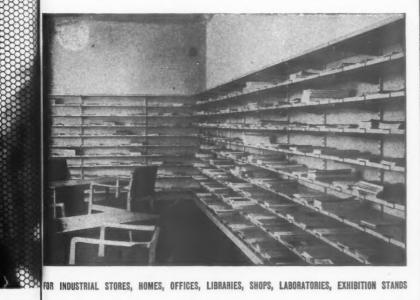
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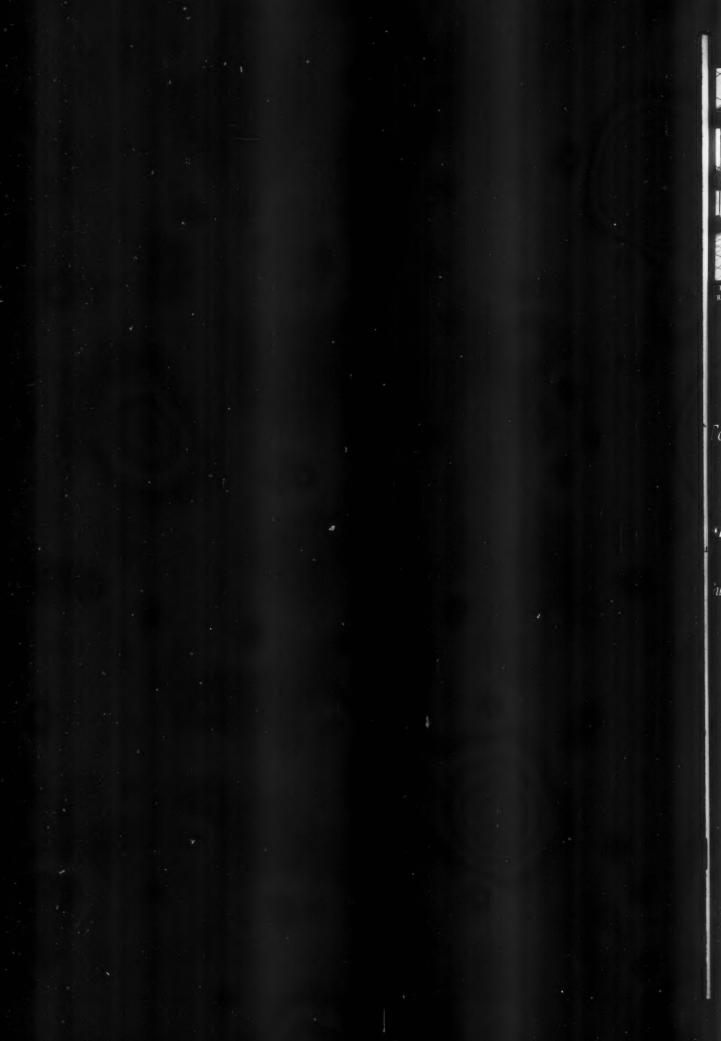


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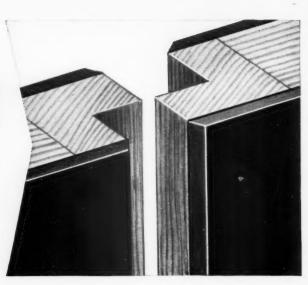
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The oldest bell in the world is reputed to be that found by Layard in the Babylonian Palace of Nimrod and is approximately 3,000 years old. The oldest dated bell in England is that hung in St. Chad's Claughton, in the parish of Hornby with Claughton, Lancashire. It weighs about  $2\frac{1}{2}$  cwt., is  $21\frac{1}{4}$  inches in diameter and  $16\frac{1}{2}$  inches high. Still in perfect condition and in regular use, it is dated 1296.

#### THE LARGEST GORGE

in the world is the Grand Canyon on the Colorado River in North Central Arizona, U.S.A. It extends from Marble Gorge to the Grand Wash Cliffs, a distance of 280 miles. It varies in width from 5 to 15 miles and in parts is more than one mile in depth. The Colorado River has In the course of about a million and a half years, exposed rock beds ranging in age from the Pre-Cambrian era (about 1,500 million years ago) to the Triassic period (about 160 million years ago).

#### THE OLDEST UNIVERSITY

Probably the oldest educational institution in the world is the Egyptian university of Al-Azhar According to the Egyptian Education Bureau, Al-Azhar was first established as an academy in A.D. 989 and evidence suggests that such subjects as mathematics, astronomy, medicine and geography were taught there at that time. The oldest university in the British Isles is the University of Oxford which came into being c. 1167. The oldest college is quoted as University College (1249), though its foundation is less well documented than that of Morton College in 1264.

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8SE/S4

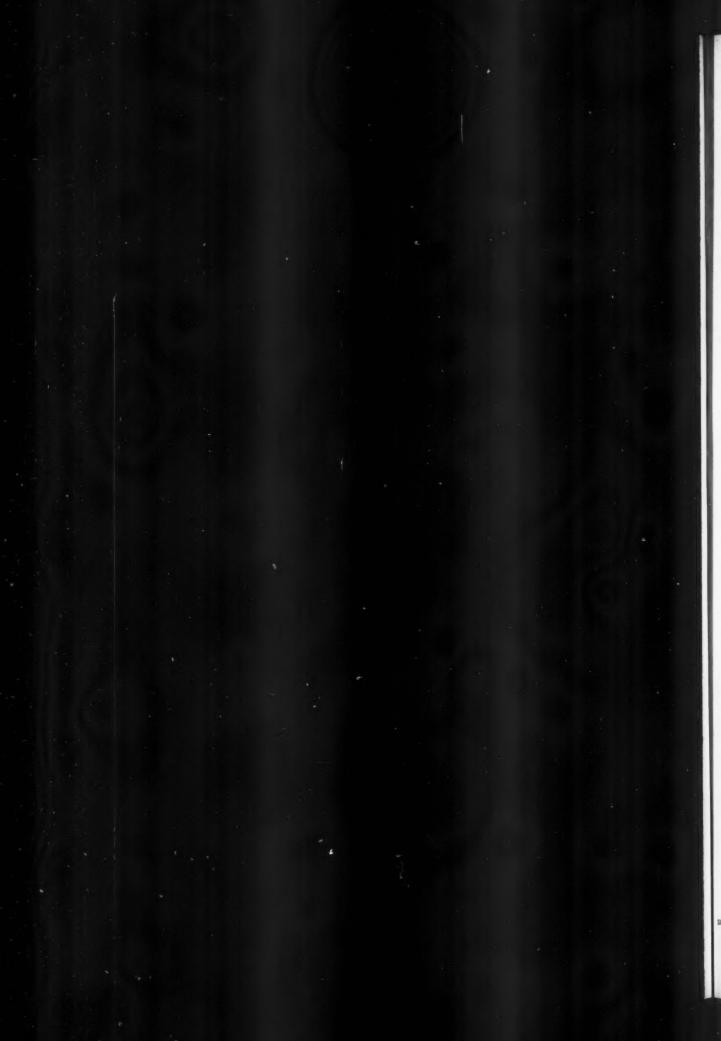
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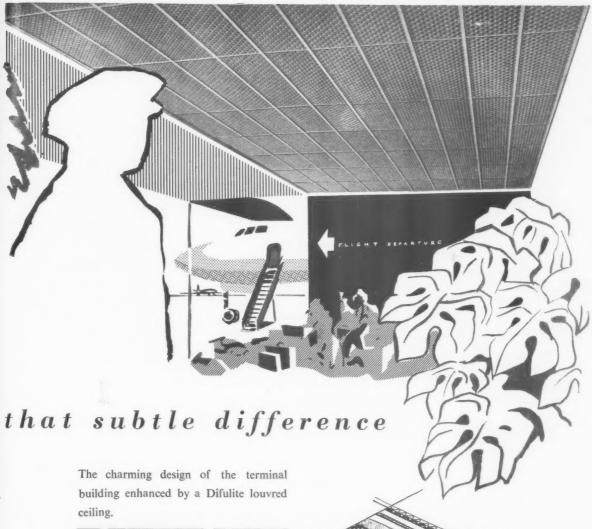
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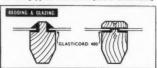
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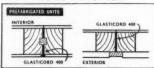
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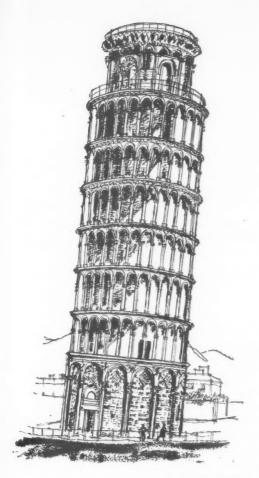
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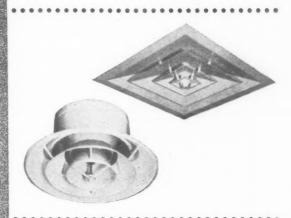
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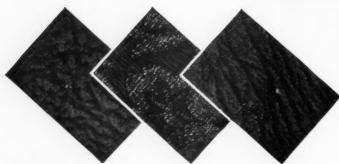
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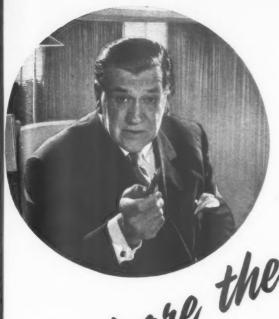
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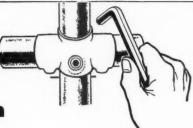


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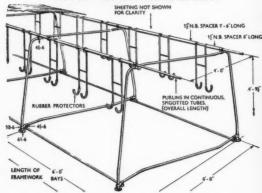
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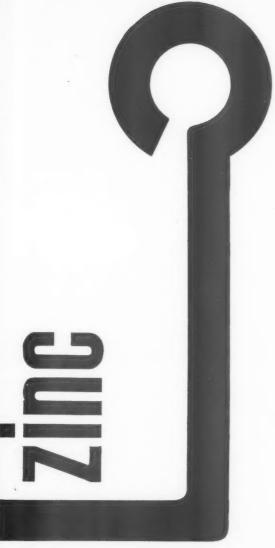
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NOT QUITE ARCHITECTURE

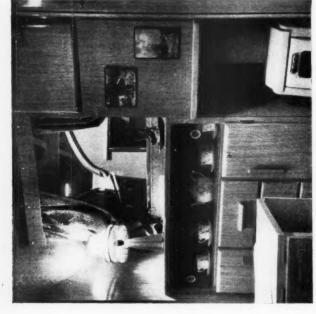
#### ... BUT WHY NOT?

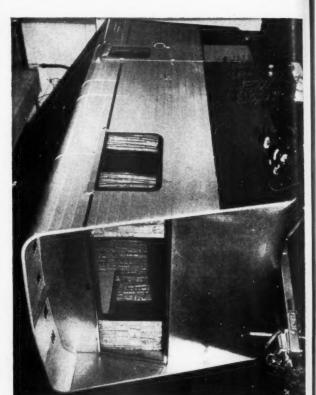
A Subtopian corner of Earls Court houses this year's collection of caravans at the Motor Show, and yet, but for some of the smaller models, any connection with the Motor Show itself is as coincidental as the relationship of furniture to a pantechnicon. The great majority of these caravans are mobile only for the sake of evading Town and Country Planning regulations and the Model Byelaws; for the most part, after one short trip behind something much sturdier than the family saloon, their brand-new tyres slowly deteriorate in a static position. These are prefabricated houses, but their design is governed by the Road Traffic Act -as long as they have wheels. 22 ft. by 7 ft. is about the biggest caravan that can be moved without any fuss. A bigger one has to have permission to move on its own wheels, although it can be transported on an articulated vehicle. Alternatively it can be made in two parts and be fitted together on arrival at its site.

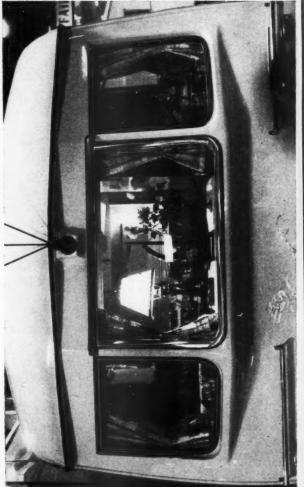
The value for money of most caravans at the Show cannot be denied, and a small but complete home for around £500 is not to be lightly disregarded. In this highly competitive industry, detail design is poor, but the highly efficient use of space developed by the caravan makers should serve as an object lesson to architects. As for employing architects to design caravans, most manufacturers laugh outright at the idea, and yet these are semi-permanent houses, sub-standard if considered by byelaw standards, and yet catering for real needs which will probably always be present. Towns decline and towns develop, and shifts in population require short-term housing accommodation which could so easily be met by movable houses.

Why can't the facts be faced and rules drawn up for the proper planning of caravan sites and the provision of all the









This year's crop of caravans at the Motor Show are reasonable in shape for the most part and the external colour schemes are definitely improving, but the interior design is universally reminiscent of the worst parts of the Furniture Show. Nearly all caravans use the same type of windows and other basic parts but these are assembled with greatly varying degrees of competence.

Right, a part of the interior of a relatively low-cost caravan. Note the looped curtains, china showcase, bulbous door and drawer front details, and artily arranged pictures. The photographs far right and below show that expensive caravans suffer from the same faults but with better materials and workmanship. Below, right, is an attempt to use the straight line with simplicity production and interior fittings and yet do more than produce a mere rectangular box which is not acceptable to public taste.

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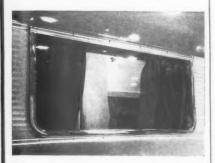
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towe caus to r and both necessary services? A sensible line on the design of the units themselves could be evolved. They could be built, not on a chassis, but as containers which could be transported by road or rail in a much safer way than at present. Sensible sizes would also be possible. Americans use 40 ft. by 10 ft. as a standard size, even for mobile caravans.

The design of a new kind of housing unit—completely prefabricated, low in cost, easily transportable, and catering for needs which cannot be denied, on sites properly designed without "Outrage"—is surely a field which could be strongly influenced by the architectural profession. Or is this to be another sphere of design which is going to slip from the architect's hand: "the economical engineer-designed home"?



Above is a pleasantly proportioned linked to other windows by n horizontal band of reeded aluminium with bright trim and a good two tone colour scheme of grey-green. Below is the same type of element used without understanding. The junction of window to band and the vertical joints of sheeting are all badly handled. The extra fan which would be much better placed in the side wall has been stuck in the glass. The colour scheme of beige and maroon is up to the same standard of design.



As for the few genuine touring caravans, they could afford to be more mobile: shifting the lounge, complete with bric-abrac and china cabinets, seems more than stupid. Why not a really functional solution, small in bulk, with rolled blinds instead of looped curtains, and everything stored in something approaching the order in which it will trave!?

Really stable units which can safely be towed at speed and which are less likely to cause the death of frustrated drivers, driven to rash overtaking on overcrowded roads, and suitable amendments to regulations, are both overdue.

JOHN REID.

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\* To preserve freedom of criticism these editors, as leaders in their respective fields, remain anonymous.

#### The Editors

#### GREEN LIGHT FOR MEN WITH IDEAS

HE success of the RIBA's and the *Ideal Home* magazine's venture into providing architect-designed houses to suit people with limited means depends, ultimately, on having a really good response from the membership. After making enquiries into the points raised in last week's issue, the JOURNAL feels able to assure those of the profession who have ideas on cheap housing that this is a great opportunity for them. The RIBA and the sponsors have stated that they are going to try and get all possible backing from building societies, and it is understood that the MOHLG is anxious to support and encourage the venture. The assessors have also stated that larger scale drawings than those asked for in the conditions may be requested, where necessary, from the 30 successful competitors. Moreover the RIBA have impressed on the assessors, we understand, the importance of this competition as a method of accelerating the improvement of popular taste by selecting progressive and imaginative designs, and of increasing the influence of the architect. There is to be no attempt to play down to a "popular" standard of taste—it is believed that the general public will accept good design if they can get it at the right price.

It should not be forgotten that Odhams Press, the publishers of *Ideal Home*, have, if their other publications are included, a readership of many millions. Odhams very much hope not to confine the publicity to the quarter-million readers of *Ideal Home*. The 30 winners will get very much greater publicity than that, if the designs are worthy of it. Here is an opportunity to provide professional services to a largely untapped market.

#### A MISSED OPPORTUNITY?

The proposals for the redevelopment of the Calthorpe Edgbaston Estate in Birmingham, of which some details are given on page 627, suggest to us that Birmingham is in grave danger of losing an opportunity very similar to that seized by the LCC at Roehampton and Ackroyden. Edgbaston's splendid private gardens and its abundance of fine matured trees provide ideal sites for mixed development at a relatively high density.

Unfortunately, the area is zoned in the City's development plan at 30 persons to the acre, a figure which precludes the type of development for which it seems to be best suited. The architect's preliminary sketches show undoubted promise, and the decision to put 50 per cent. of the population in high flats, possibly of 12 storeys, show that his clients are prepared to move some way with the times. But they still have a long way to go; 59 per cent. of the residential area in the Estate's proposals is to be used for housing, at three houses or 10 people to the acre. In a city which is now proposing to extend its boundaries to solve its slum clearance, this is squandering land and sacrificing a great opportunity for making a brilliant architectural and social contribution to Birmingham's life. Can the Corporation and the Calthorpe Estate not think again? A suburban arcadia in the heart of Birmingham is out of place today.

On the other hand the development of a new commercial and office centre in Edgbaston seems to us entirely sound. The City fathers, instead of worrying about declining site and rateable values in the City centre, should realize that unless there is a major movement of offices away from the congested and outworn city centre, there is no prospect of reconstructing it to meet the needs of the twenty-first century.

#### A PROBLEM OF CLASSIFICATION

It is now two and a half years since the JOURNAL started the enquiry service for products advertised in the revised and expanded form of the reply-paid folder which is published each week on the last two pages. Since then enquiries from readers have been passed on to manufacturers at the average rate of over 2,300 a week. The total, therefore, is now 300,000 enquiries since this simplified service was introduced. We know of no other architectural magazine or organization which has such a volume of enquiries. We refer to this not merely as a boast, but to indicate the seemingly insatiable demand of architects for up-to-date information. Presumably a saturation point must be reached when the immediate demands of an architect's office have been met and he requires only revisions to the catalogues he has already received. We hope that before that point has been reached we will be able to give architects the result of Dargan Bullivant's study of the problem of classifying and keeping trade catalogues, which is but one aspect of his research into the whole subject of "Information for the Architect."



DEPWADE RE-DEPRECATED

More about Depwade. Last week I reported this Norfolk RDC's decision not to employ an architect for a £30,000 block of council offices. The decision, which was made with one or two back-handed swipes at the architectural profession, has touched off quite a bit of anger. Several architectural bodies have written to Depwade, and the Civic Trust have asked for plans of the proposed building. And several architects in Norwich city architect's department have written to the Eastern Evening News, patiently explaining the difference between an engineer and an architect. To get their point home they have asked Depwade to consider the architectural work done in the neighbouring RDC, Loddon, by Tayler and Green. "The name of Loddon," they say, "is now known all over the world for housing that is, to quote this month's Architectural Review, 'unequalled in the whole country.' "

Those who haven't seen any of this housing should look at the illustrated Review article by Ian Nairn, who says that "the region is more rural, more Norfolk-like than it was in 1945." But black-and-white pictures don't tell you nearly enough. The buildings must be seen on the site: only then can their subtleties of proportion, decoration and colour be truly appreciated.

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I don't know of any other good *i* modern architecture which is flattered more by the eye than by the camera.

A cheerful footnote. At last Tayler and Green have been honoured for the profits they have given to their own county. The local RIBA bronze medal has been awarded for one of their schemes. It is probably not a coincidence that this award follows the fuss the JOURNAL stirred up in 1956, when the first bronze medal for the area went to something far less obviously deserving.

#### ANY COMPLAINTS

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Has anyone had the bright idea of sending Depwade the RIBA's new "Your publication. House-Why You Should Use An Architect "? This admirable leaflet, which recounts all the advantages of employing an architect, is designed for distribution to the public. It wouldn't have been a bad idea to include an additional note: "If your architect fails to provide these services efficiently, please consult the RIBA." Sooner or later the RIBA will have to be as insistent on the efficiency of its members as it is on their professional rectitude.

#### BACK-SEAT ÆSTHETES

Propaganda leaflets of this kind are all very well, but I wonder if they stand a chance against the blunders of planning controllers and national newspapers. Last week the Journal published a picture of a pleasant house which had been "asthetically controlled" out of existence by the Epsom and Ewell Borough Council and the Minister of Housing and Local Government. To make matters worse, the Evening Standard printed the story and described the house, with an irresponsibility that the layman always reserves for modern architecture, as "a glass box"—which is just what it wasn't.

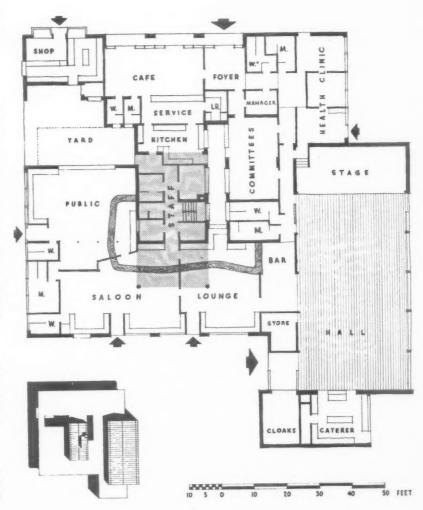
Do you know of any recent examples of interference with professional designs by lay committees or Ministry experts? If you do, let me have the facts, with a minimum of illustrations.

#### MUCH BINDING ON ROMNEY MARSH

The fight against Subtopia continues. At present, Kent is bothered about the 275-kV. power line that is to run



Is the consuming of alcohol an evil only to be tolerated if it is hedged about by restrictions and difficulties? Or can the appetite be tamed and civilized if it is closely associated with tea and cakes, committees and concerts? Hatfield New Town is trying out an experiment. Thanks to the brewers McMullen and Guinness, the New Town is to be given a pub called "Hilltop," which is also to serve as a community centre (with hall, health clinic, committee rooms and kitchens). The building will be shunned by the extremists: the Temperance Johnny who can't have his chest examined in a pub, and the family-funking tippler whose thirst is spoilt by the sight of tea urns. So the worthy inhabitants of Hatfield should be able to profit from an uplifting and enlivening new building. But isn't the plan very odd? Surely a light-well, 30 ft. long by 5 ft. 6 in. wide, is just the type of sordid feature which the modern pub, or community centre can do without? The architects for this experimental building, which deserves success, are Brett, Boyd and Bosanquet.

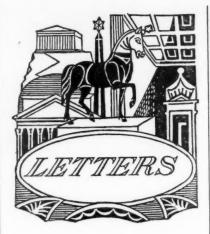


across it, carrying power from the English end of the Channel cable which is part of the exchange project between England and France. A public inquiry has been held (in Ashford) about this cable, which will carry the direct current that is necessary so that English and French transmission can be properly synchronized. Some interesting figures have been produced. At Lydd, near the Kent Coast, the current will be transformed into alternating current and taken on overhead lines to Gravesend (via Canterbury) with 130-ft. high pylons spaced 400 yards apart. This line will cost £23,000 a mile; to put it underground would cost an additional £310,000 a mile. But for some technical reason to put direct current underground would cost only £33,000 a mile more than to take it overhead. This, however, would involve building unsightly transformer stations further inland, and would make it impossible to use the same power line for the nuclear station the Government plans to build nearby at Dungeness.

One basic decision has to be made at the Ashford inquiry. Which of two alternative routes will be used for the overhead line between Lydd and Canterbury? One route skirts the coast and then goes inland in a way carefully chosen to do the least damage to amenities; the other route goes further west, slap across Romney Marsh and some of the best unspoilt landscape in that part of Kent. The first route, which is clearly the preferable one, is supported by the electricity authority, the Kent County Council, the RFAC and all the experts -to say nothing of the Farmers' Union and other knowledgeable bodies. The second route was suggested only because certain local authorities objected to the first one. They objected in spite of the fact that in their areasanyway along the coast—the amenities have already been spoilt.

These objectors were the most vocal of the local authorities at the enquiry, but it is hard to believe that the Fuel and Housing Ministers who are holding the enquiry will take more notice of them than of the impressive array of experts and the county council.

ASTRAGAL



Ezra D. Ehrenkrantz Arthur 7. Willis, F.R.I.C.S. C. G. Turner

#### The Modulor

The comments brought forth by SIR.-John Voelcker's review of Le Modulor from Bruce Martin, and Mr. Voelcker's reply are most interesting.

reply are most interesting. It appears at first that Mr. Martin's criticism is completely valid. He rightfully shows that the Modulor series, 4 in.,  $6\frac{1}{2}$  in., 8 in.,  $10\frac{1}{2}$  in., 13 in., 17 in., 21 in.,  $27\frac{1}{2}$  in., 34 in., 44½ in., 55 in., 72 in. and 89 in. has limitations in coursing or "meshing" as compared with an arithmetic series—8 in., 16 in., 24 in., 32 in., 40 in., 48 in., 56 in., 64 in., 72 in., 80 in., 88 in., 96 in. and 104 in. Upon closer inspection, however, both approaches leave room for doubt. The additive series gives insufficient guidance, as panels sized 80 in., 88 in., 96 in. and 104 in. will be very difficult to use together. 104 in. will be very difficult to use together. An arithmetic series is a crude instrument giving little flexibility for wall and column thicknesses at the lower end of the scale and hardly any guidance for manufacturers or architects at its upper end. The Modulor, being based on two geometric series, gives better answers for both extremes. It is in the middle range of dimensions where a spandrel panel is equal in size to three, four

spandrel panel is equal in size to three, four or five windows that Le Modulor is weak. The BRS Number Pattern contains a positive alternative in itself but also shows how Mr. Martin's and Mr. Voelcker's views may be related.

9 in. multiple from BRS	Corbus Series	ier's	9 in. multiple from BRS
Number Pattern	Red	Blue	Number Pattern
18	17	34	36
18 27	274	55	54
45 72	441	89	90
72	72	144	144
117	1164	233	234
189	1881	377	378

Here, using some of the Number Pattern dimensions, Le Modulor has a base module! The Number Pattern also contains most of the 8 in. multiples used in Mr. Martin's example, but discards those which have reduced properties of flexibility. Eleven times eight or 88 in. is eliminated as compared with the contained of the contain with twelve times eight or 96 in. which is more highly "factorable."

The Number Pattern, by relating dimensions such as 8 in. and 9 in. has inch flexibility: seven 8 in. = 56 in., six 8 in. + one 9 in. = 57 in., five 8 in. + two 9 in. = 58 in.,

four 8 in. + three 9 in. = 59 in., etc., while all the 8 in. sizes shown above can achieve only 8 in. flexibility. The Pattern also relates these seemingly diverse sizes (see AJ, April 5, 1956), and one of the three series for doing this is the Fibonacci series which accounts for the above approximation to Le Modulor.

EZRA D. EHRENKRANTZ.

Berkeley, Cal.

#### Bills Of Quantity

SIR,-Mr. Handisyde's suggestion of a uniform unit for billing areas has much to be said for it, but the quantity surveyor is not the only one concerned. The rules of the Standard Method of Measurement are framed to meet the needs of builders. They, in their turn, have to follow the custom of their merchants and specialist subcontractors. As long as these will quote boarded flooring

by the square and block flooring by the yard, the difference must be maintained. There is also the problem of items of weight. The use of cwts. and eights of a cwt. (rather than qrs. lbs.) seems fairly straightforward, though engineers bill in tons, which captes like several lines. which again might cause a slip.

The separate units of yards and feet must, I think, remain. Feet are wanted for small For large quantities, e.g., of concrete, a finer discrimination than ld. or 1d. per foot cube is required, and it would be horrifying if contractors priced something at 11.057d. per foot!

ARTHUR J. WILLIS.

Canterbury.

#### Standard Paper Sizes

Sir,-Recently an architect returned one of our trade publications as being unacceptable on account of dimensions, and on a printed postcard sent with it quoted the "A" series of paper sizes listed in Appendix C of BS,1311:1955.

In all trade publications used for reference purposes we standardize on 11 in.  $\times$  8½ in. This, of course, is the 4to size recommended

by BS.1311.

The series "A" sizes dealt with under Appendix C of the British Standard are the sizes proposed by the International Organization for Standardization which is still considering the standardization of paper on an International basis, but these sizes are not yet adopted in England. Nor would it easy for them to be adopted since British printing machinery is geared to the conventional sizes of paper, and far reaching changes would be necessary if the "A" series were adopted. We understand that none of the British paper mills offers the "A" series of sizes

In view of this it does strike us as strange that one architect, and we have encountered only this one instance, should reject the standard at present accepted and specify a dimension which is not, and may not in our

lifetime, be adopted.

C. G. TURNER.

Colchester.

[The Technical Editor replies: BS.1311:1955 to which our correspondent refers was amended in March of this year to give equal countenance to the "A" series of paper sizes. We have a strong preference for the "A" series (with which the Journal itself complies) and for this reason sympathize with the purist architect who would have nothing else. In fairness, however, we must admit that he was carrying intransigence too far and that architects must be grateful for many years to come for literature which conforms to either series specified in BS.1311. After all, they differ from each other enough indeed to make filing inelegant, but not enough to make it impossible.]

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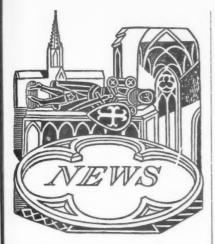
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#### CALTHORPE ESTATE

#### Redevelopment Plan

The Calthorpe Estate, Edgbaston, Birmingham, is to be redeveloped for housing, offices and other purposes. The estate, of 1,625 acres, lies only a mile from the city centre, and possesses exceptional beauty and charm. It is for the most part a Victorian residential estate, and its net residential density ranges from about five persons or 1.5 houses per acre, to around 12 acres per house. The area is zoned in the City redevelopment plan at 30 persons per acre.

nouses per acre, to around 12 acres per house. The area is zoned in the City redevelopment plan at 30 persons per acre. The architect is John Madin.

The principal feature of the estate's redevelopment plans is "to keep Edgbaston's green and pleasant character inviolate by developing to various densities": low density areas with approximately three houses per acre (59 per cent. of the area), medium density areas involving the use of low "walk-up" flats (25 per cent. of the area, at 60 persons to the acre), and high density development consisting of taller flats (16 per cent. of the area at 100 persons to the acre). The development generally will take the form of precincts, which will utilize the splendid existing gardens. Houses will be in three categories—large, medium and small, and will be kept free from "regimentation," but will be sited wherever possible among existing gardens.

possible among existing gardens.
Seventy-five acres have been allocated for offices and another area has been set aside for medical consultants, to provide a Birmingham "Harley Street."

## DIARY

TCPA National Conference. At County Hall, S.E.1. OCTOBER 30/31

Greek Space and Void. Talk by Peter Smithson. On the BBC Third Programme, 9.45 p.m. October 31

President's Inaugural Address; presenta-tion of London Architecture Bronze Medal; Unveiling of portrait of Kenneth Cross. At the RIBA, 66, Portland Place, W.1. 6 p.m. NOVEMBER 4

HC (SPUR), Town Planning Scheme for Covent Garden—Seven Dials by Regent Street Polytechnic students. At 13, Suffolk Street, S.W.1. 6 p.m. NOVEMBER 3

Modular Assembly. Modular Society Exhibition at 27-28, Albert Embankment, S.E.11. Monday to Friday, 10.30 a.m.-6.30 p.m.

UNTIL SHORTLY BEFORE CHRISTMAS

#### RIBA DISCUSSION: HOSPITAL PLANNING

#### Progress and Changes Since 1954

A meeting on Hospital Planning organized by the Science Committee of the RIBA was held at 66, Portland Place, on Tuesday, October 21. J. H. Forshaw, Chief Archi-tect to MOHLG and MOH was in the chair. Two papers were read and these were followed by discussion.

#### Ward planning

Ward planning
The author of the first paper, Richard Llewelyn Davies, began by referring back to the RIBA conference on hospital planning held in 1954 and, by using the original design of the Princess Margaret Hospital at Swindon which dates from the same period, illustrated the changes in our ideas which have taken place since then. In this design, which has been described as "a match box on a muffin," it was decided to place all the wards in a single tall block (the match box) and all the other departments in the single-storied development (the muffin) which spread round the foot.

The reason for this was that the wards were a relatively stable element in a hospital and the other departments were all subject to change. In fact, the ward block at Swindon has been reduced from the seven stories originally envisaged to four. For this there are three reasons. First, social surveys have shown that the total number of hede required are head of popular

seven stories originally envisaged to four. For this there are three reasons. First, social surveys have shown that the total number of beds required per head of population is very much less than was originally thought. Second, the adoption of the "bifocal" ward plan (two 20-bed units per ward, two wards per floor = 80 beds per floor) reduced the auxiliary accommodation and thence the floor area per bed. Third, it was decided, as a result of further research on the risks of cross-infection, to remove children's and maternity beds from the main block. the main block.

#### The single-storey hospital

One development since 1954 is the revival of interest in the single-storey hospital. This revival has been made possible by the more compact planning of individual development. Investmentary made by the contraction of the partments. Investigations made by the Nuffield Foundation into another hospital project—that of Wexham Park, Slough—revealed, unexpectedly, that a single-storey plan would result in shorter average journeys within the hospital than a multi-storey plan. The ward plan evolved for Wexham Park is similar to the earlier plan designed for Larkfield Hospital, Greenock, but with the two parts of the ward at right-angles

for Larkfield Hospital, Greenock, but with the two parts of the ward at right-angles to another.

After a brief reference to a new project of a very different kind in which his department was now engaged (St. Thomas's Hospital, London), Richard Llewelyn Davies finished his paper by discussing three factors which are likely to affect hospital design in the future. The first was the growing alarm about the risks of cross-infection which may lead us to provide more single rooms and to store all the articles needed by a patient near his bed.

Next he referred to progress in our knowledge of central sterilizing departments deriving from experience with the experimental surgical units at Musgrave Park, Belfast. Lastly, he referred to long-term changes in our hospital needs: to the increase in accident and casualty departments, to the need to provide a more differentiated hospital accommodation, varying from intensive care to something like a hostel (e.g., Cowley Road Day Hospital) and to the need to centralize the less personal services (sterilization, laundry, etc.) so

that we can decentralize those which are more personal.

#### American planning

John Weeks, who spoke next, described the advantages, in terms of greater flexibility, of the American system of hospital administration over those adopted in England and on the Continent. This system, which approximates more closely to that of an industrial firm, prevents the building up of little "empires" by matrons, ward sisters, or surgeons and allows a more "functional" distribution of responsibilities within the hospital. This has led on the one hand to a far greater centralization of the services and on

pital. This has led on the one hand to a far greater centralization of the services and on the other to the breaking up of the ward into one-, two-, or four-patient rooms.

After touching briefly on Paul Nelson's American Hospital at St. Lo in France (which was the first "American style" hospital to be built) and the publications of the US Public Health Service, he embarked on the main subject of his paper: the group of new hospitals built by the United Mineworkers of America Welfare and Retirement Fund in the States of Kentucky, Virginia and West Virginia. These hospitals were designed by three firms of architects (Isadore Rosenfield, York and Sawyer and Sherlock Smith and Adams) and owe many of their ideas to the great pioneer figure in

Sherlock Smith and Adams) and owe many of their ideas to the great pioneer figure in American Hospital design, Gordon Friesen, who at that time, when they were planned, was senior administrator to the Fund. The plans of these hospitals (which John Weeks illustrated by the example of Harlan) show a number of characteristic arrangements. There is one reception hall for in-outients, out-patients and visitors (only casualties come in by another route) and, similarly, all supplies (except fresh foods) come in to a single reception point. All members of staff and visitors go to one canteen; and one central kitchen prepares all food, that for patients being delivered mecha-

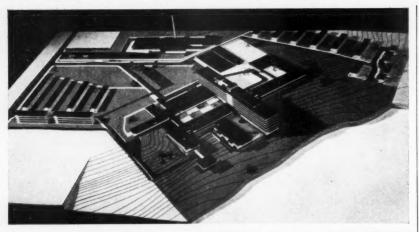
canteen; and one central kitchen prepares all food, that for patients being delivered mechanically by "Trayveyor" (having been ordered previously by the patient from a "menu"). Supplies to the wards are sent up automatically from a central Supplies Department once every twenty four hours.

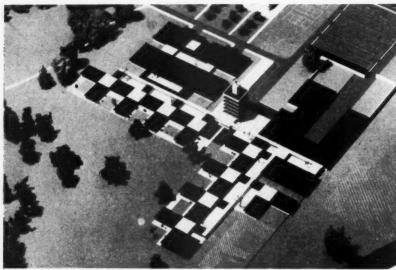
The ward floors are arranged on the "race track" plan, with the nurses' station and all ancillary rooms in the middle and patients' rooms all round the outside. The ward area is divided into 6-bed and single-bed rooms and the floors are divided between the sexes to allow the allocation of the beds according to specialty. When the patients want anything they communicate (by two-way loud speaker) with the floor clerk who has her post at the nursing station and who does

anything they communicate (by two-way rous speaker) with the floor clerk who has her post at the nursing station and who does much of the work of a non-nursing kind which elsewhere is done by nurses. Lastly, there are no cupboards in the utility room; all stores are kept on trollies which are re-stocked every morning.

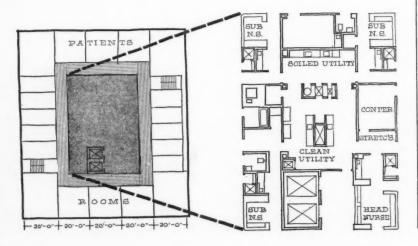
Summing up, John Weeks suggested that we have much to learn from these hospitals, particularly on the administrative side: we waste space providing self-contained "empires" for specialities which do not justify them; and we provide sterilizer and store cubboards in almost every room. He questioned, however, whether electronic communications were a sufficient substitute for the more general attentions of traditional nursing and whether the shutting off of patients in separate rooms did not deprive them of the sense of being in a community.

The discussion was opened by Dr. Godber who praised the architects of the Nuffield





Top, model of the original design for the Princess Margaret Hospital, Swindon. model of Wexham Park Hospital, Slough. The architects for both these Hospitals are Powell and Moya, consulting architect Richard Llewelyn Davies. Bottom, typical floor plan of ward block at Whitesburg Hospital, Kentucky (architects Sherlock, Smith and Adams) showing American "race track" planning.



Foundation particularly for their pertinacity in asking the basic question: "What do we want a hospital for?" He went on to point out that is was just as well that we did not have the capital to build the hospitals for the Health Scheme at the time when the scheme was first put into practice. The discussion which followed turned on a small number of key points. number of key points.

#### Size of wards

One of these was the correct number of beds in a ward, having regard both to what patients like and to the difficulty of ensuring nursing supervision. A nurse in the audience said that patients prefer units of four.

Donald Goldfinch, Architect to the Birmingham Regional Hospital Board, said that opinion on the continent favoured units of 4-6 beds, but that in America which was the first country to champion the very small ward, opinion was reverting to units of 8-20 beds and in England it stands at 12-16 beds. Closely allied to this is the question of ward administration. The main alternatives ward administration. The main alternatives here are the characteristic English hierarchic system headed by the ward sister (a queenmother figure "—John Weeks), and the system known as "group nursing" (in the U.S. "team nursing") which has formed the basis of the Nuffield ward studies. In the first, of these peaks positions is looked after first of these each patient is looked after by a single nurse under the ultimate super-vision of the ward sister; in the second he is vision of the ward sister; in the second he is looked after by a group of nurses who to-gether share full responsibility for all the patients in the ward. This latter system breaks down, to some extent, the nurse/ patient relationship, but makes supervision easier and saves the nurses' feet. Further, as the ultimate responsibility falls on each team and not on one single sister, there is no limit to the number of beds per floor. Though the English floor sister and her system came under heavy fire in the course

#### Traffic in wards

The next point considered was that of excessive traffic in the wards caused first by visitors and second by perambulating teams of specialists. It was pointed out by John Weeks that the visitor nuisance which is such a feature of English hospitals (blockage) in the wards and long queues in the entrance of visitors waiting to be let in) is caused directly by the restricted visitors' hours. American hospitals let people visit at any time during the afternoon and evening and have no trouble.

of the evening she was supported by several speakers, among them William Howitt, the architect for the rebuilding of St. Thomas's.

Blockage of the wards by specialists is much aggravated by the custom of placing patients indiscriminately, with no regard for specialists must walk through the whole hospital whenever they make their rounds. This question is closely linked with that of the segregation of the sexes. Clearly if you have "bi-sexual" (sometimes called "duhave "bi-sexual" (sometimes called "du-plex") wards with one part men and one part women, it is possible to carry the principle of bed allocation by disease much further.

#### Central sterilization

There was some discussion of central sterilization and the resistance to it on the part of hospital staffs. Part of the reason for this resistance is the unwillingness of the sisters in charge of operating theatres to part with responsibility; but, as John Weeks pointed out, this objection can be met if the sisters make their choice of instruments, etc., before sending them for sterilizing. Another objection which would seem less easily resolved is that the centralizing of specialist services in teaching hospitals makes it more difficult for trainees to obtain all-round experience.

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The issue of the centralization of the services is linked with that of the overall economy of the hospital; for the savings it effects make possible the single storied hospital plan put forward by Richard Llewelyn Davies in his paper. As one speaker put it, if you have centralized services, then it is possible to adopt the bungalow plan for hospitals of up to 300 beds. There seemed agreement, however, with the view of a Hospital Administrator that it is only feasible to follow this plan if you can leave at least one third of the site vacant for extensions. vacant for extensions.

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#### THE UNIVERSITIES

#### 'No Room for Complacency'

This review of the University Grants Committee's report on University Development, 1953-7, suggests that, despite some progress, there is no room for complacency.

The University Grants Committee is a committee consisting mainly of University dons appointed by the Chancellor of the Exchequer and charged with advising the Government on the application of parliamentary grants made to meet the financial needs of university education in Great Britain. Its quinquennial report for 1952-57 amounts to 90 odd pages of facts, figures and the official view on the purpose, nature and present problems of university education. Apart from eight plates of university buildings presented without comment, it is unillustrated, and few architects will therefore feel inclined to look at it. Nevertheless, the report merits their attention because the Government is aiming to spend £60 million on university building from 1960 to 1964 and the report indicates what steps it proposes to take to get value for its money. The University Grants Committee is a com-

#### Value of cost analysis

The present annual grant for university building amounts to £12 million and by 1960 it will have risen to £15 million. Such vast public expenditure, says the report, has lead to "increasing public interest." This bland official euphemism means, in plain language, that every public-spirited watchdog, from the Public Accounts Committee to the Evening Standard, wants constant re-assurance that too much of that £15 million won't go down the drain as waste. The report itself admits that much of the development it had have been the development in had admits that much of the development it had been hoped to achieve in the quinquennium was made impossible by "the continued decline in the value of money"; yet over the ame period architects working in the field of local authority administration were markedly successful in maintaining the output of educational building without significant cost increases, despite the same inflationary trend. The Committee presumably has this in mind when it says "we wish to apply to the planning of university buildings the methods of cost analysis which have been successful in other fields and we hope this may both lead to economies and reduce the work involved in the detailed examination of plans."

There is evidence here that the Committee has taken informed advice on how to cut

has taken informed advice on how to cut down building costs; but, while the Com-mittee has evidently sought—and generally found—good advice on such matters, there are indications in the report that it has not thirtiely understood how architects have to

work: good intentions seem to be confused. Thus, the Committee very sensibly scrutinizes university proposals before the architect is briefed, so that he is not called upon to design to a programme which itself is extravagant; good, too, that it should examine sketch plans and outline specifications before the architect proceeds to detailed mine sketch plans and outline specifications before the architect proceeds to detailed working drawings. But the Committee does not seem to know what sketch plans are, for it savs it is too late at sketch plan stage "to it says it is too late at sketch plans are, for it says it is too late at sketch plan stage "to raise fundamental points of design such as the balance between working space and circulation space." How can such points be raised any earlier?—they are not there to raise until sketch plans have been prepared. raise until sketch plans have been prepared. Again the report says, rightly enough, "if criticism is to be helpful it must be based on comparative studies of the design and cost of university buildings of the type in question." Very sound, but—it says this criticism must be applied before the architect prepares sketch plans, before any design exists to criticize!

#### Architects to advise committee

It is therefore all the better news that the Committee has recently appointed three architects to its staff. As the JOURNAL announced at the time, Stanley Meyrick was the first to be appointed, and brought with him many years experience as second-incommand to William Allen at the Building Research Station. He has now been joined by Guy Oddie and C. E. D. Wooster, both well known as members of the Development Group at the Ministry of Education. Henceforth, therefore, the Committee will be well and closely advised in architectural matters and, with the good will that quite evidently exists, the confusions will doubtless soon be ironed out. It is therefore all the better news that the

#### Need for clearly defined standards

The Committee say they hope their architects' work will mean that "our criticism of university building plans will become, not only more effective but also more constructive and more helpful to the universities." While welcoming the implications of this statement, our own hope would be for something even more positive. The report defines an economical building as one that is "apt for its purpose at a cost not higher than is an economical building as one that is "apt for its purpose at a cost not higher than is necessary to make it so." But "apt for its purpose" covers a wide range of opinion, and we, for our part, should hope that the UGC will eventually be able to define the standards of space, construction and performance which they themselves regard as apt, for each of the different types of building required. Criticism then can play a very minor role, whereas advice and information will be eagerly sought, especially if the will be eagerly sought, especially if the Committee's architects can themselves design

will be eagerly sought, especially it the Committee's architects can themselves design the occasional building to demonstrate their point, as the Ministry of Education has so successfully done from time to time. No step the Committee could take would do more in the long run to produce good university buildings at acceptable prices. For the profession, however, there is nothing in the UGC Report to justify complacency. Architects cannot escape responsibility for much past waste on Portland stone and neo-Georgian trimmings; and if they are to compete successfully against the so-called "all-in service" they must cease to look on university building as an all too rare chance for monumental self-expression, and seek instead the best means of providing buildings apt, not only for their purpose, but for the arduous social and economic conditions of the next ten years.

#### WORK STUDY

#### Application to Building

The Junior Liaison Committee of architects, quantity surveyors and builders has held its

third meeting. C. A. Francis, head of the Building Advisory Service of the NFBTE, lectured on Work Study at the Institute of

His approach to building was, he said, that of a non-technical man who looks with a fresh critical eye at what to the rest of us is familiar. Why, for example, does bricklayer, starting on a new lift at foot level, have to take bricks from the top of the

bricklayer, starting on a new lift at foot level, have to take bricks from the top of the stack, and then when he has reached chest level, take bricks from a diminished stack at foot level? This example marked the tone of his whole talk.

He explained that work study divides into three headings: Process study—critical appraisal of the whole job; Method study—appraisal of a particular task, subdividing into Methods and Motions study. Finally, Work measurement—the highly specialized establishment of standard times for operations. In methods study, the management consultant asks, of a particular task—what, when, where, who and how? then in each case he asks—why? Architects may recognize this as a crude and schematic form of the kind of thinking they have done for years when designing a building, but of the very few architects in the audience, only one tried to point this out—and seemed not to be understood.

Mr. Francis then showed a number of slides of building they have done for

Mr. Francis then showed a number of slides of building sites—mainly of concreting operations—the work study men seem not to have noticed plumbing or electrical installations—and asked the gathering to say what was wrong with them. More often than not he supplied his own answers: cement bags stacked to make transfer to the mixer difficult, bricks stacked about 8 ft. high in silly cult, bricks stacked about 8 ft. high in silly places on the site ("by a well-known national builder whose name I won't mention"), weigh batching gauge dials carefully placed so that the dalli scraper operator can't see how much load he has got, and so forth. One example that did evoke comment from the (mainly builder) audience was that of building walls in small lifts of about 2 ft. 3 in. instead of 4 ft. 6 in. so that there are only 72 quoin bricks (which take twice as long to lay) instead of 136. Mr. Francis successfully challenged the attempts to explain why this would not work.

#### The whistle stop

In the discussion, one speaker asked whether it was worth while to make piers and walls of brick dimensions since the absence of cutting was not measured and therefore not priced by the builder. The answer seemed to be that once a builder gets to know that the architect does this sort of thing to help him, his tenders will come down 1 per cent. Another speaker asked whether more spec-

him, his tenders will come down 1 per cent. Another speaker asked whether more spectacular bonus targets would not automatically bring improvements to work methods in their train. Mr. Francis said no, because men will not work to get unlimited money (except just before Easter and just before Christmas)—they know what money they need and will work to get that and no more. The speaker appeared to feel that he had not been fully understood.

The biggest laugh of the evening went to Mr. Francis' story of his method of explaining "fatigue allowance" to men on the site. Every hour a man blew a whistle—at which all the men were to stop work for three minutes. This was felt by all to be something of a lark, but at the end of the day it was found that the output was higher by some 120 bricks per man. The explanation was that it was not only the rest, but the gradually accumulating anxiety in each man that if he did not get on with it after the three minutes, he would not reach his bonus target. Only one speaker raised the fashionable bogey of the all-in service.

As in the second of these joint meetings, architects were poorly represented, most of the gathering appeared to be builders or surveyors. It is unfortunate that the Junior Committee (or the RIBA?) does not give them wider publicity.

# FLATS IN BERLIN, 1958

PROBLEMS & TECHNIQUES COMPARED WITH ENGLISH PRACTICE

by J. Eastwick-Field and J. Stillman

#### 1. Social housing

Most of us probably share an uneasy feeling that a great many foreign buildings are more competently, more imaginatively designed than our own.

Many of the well known foreign buildings that are much admired, and often copied, are, it is true, of a grander scale than economy here permits at present; opera houses, congress halls, concert halls, buildings designed to house the administration of young and prosperous countries like Brazil, or of international bodies like Unesco. Private houses, too, of a kind that can rarely be paid for by individuals in this country-they also appear from time to time to whet our frustrated appetites; and it is good that they should do so, for of course the opportunity does sometimes occur even here to give expression to more than plain utilitarianism. However, we think it must be agreed that much work in this country is nowadays overbearingly influenced by rigid standards of economy and ipso facto by traditional ways of thinking, since the orthodox in planning and building is invariably the cheapest. Our public is furthermore rabidly conservative in its attitude to design: and we have an uphill battle against our climate and our regulations.

It seemed to us, therefore, that it would be of interest to examine a number of foreign buildings more thoroughly than by superficial reference to photographs, and to include some which, though they are "run of the mill" buildings, appear in certain respects to have greater architectural merit than many of those designed for similar purposes in this country. Most architects, we thought, would be familiar with the faces of the much publicised buildings in the

Most architects, we thought, would be familiar with the faces of the much publicised buildings in the Hansa Quarter in West Berlin; and many would perhaps have decided which of the faces fashioned by the gods—Gropius, Niemeyer, Aalto and many others—they liked, and which they disliked. But we doubted whether as many architects would have had the opportunity of looking at their favourite buildings there as a contribution to housing, which is after all what they were intended to be—or to compare them critically with other German housing or with corresponding work in England. So, here in West Berlin, in the short space of a week—out of which we were tempted to take all too much time being shown other kinds of buildings, as well as the devastation in East

Berlin—we tried to make some such critical comparisons. We found that the opportunities afforded us exceeded our expectation, for the Berliners in the Western sector are conducting a vigorous rebuilding programme, full of enthusiasm and quite undaunted by the perilous political and physical situation in which they work.

In the JOURNAL of April 10 this year Rolf Rosner wrote about Housing in Western Germany and much of what he said is applicable to the new housing in Berlin. In particular he explained how the social housing, which is comparable to our council housing, is financed.

About fifty to sixty per cent. of the cost of such dwellings is provided by the state at an interest rate of  $1\frac{1}{2}$  per cent., 30 per cent. of the money as mortgages, by banks, insurance and finance companies at  $7\frac{1}{2}$  per cent. interest and the remaining 10-20 per cent of the capital through the profits of the housing companies, employers' loans or contributions.

The significance of this is that the initiative is private, and the choice of site is made by the sponsoring organization. This leads to less co-ordinated planning, but on the other hand the speed and efficiency and economy of building are increased since the sponsoriare anxious to get the return on their capital. The rents are fixed within controlled limits by the sponsors, and the tenants have to qualify for occupation by obtaining priority on a municipal housing list, in much the same way as in this country.

The buildings have to comply with an elaborate system of standards and regulations, and besides the more obvious requirements for room sizes and heights (minimum size for living room 18 sq. m. [193 sq. ft.]: often 22-24 sq. m.); numbers of sanitary fittings, fire precautions for buildings over 22 metres high, and so on, there are standards for heating and sound insulation which must be conformed to in order to obtain a subsidy. As to the height of rooms, German building regulations lay down a minimum clear height of 2.5 m. (8.2 ft.) in dwellings intended for "permanent residence," which applies to one to three-storey blocks. In buildings of four and five storeys, ground floors and first floors must have a clear height of 2.75 m. (9 ft.), and in buildings containing more than five floors the regulation is that the





Above, tall blocks of flats in the Hansa Quarter—a complement to social housing.

Left, an example of flats in the social housing development at Mariendorf. All the social housing is designed by private architects. This scheme is by Professor Wils Ebert.

Below, flats in the Hansa Quarter by Alvar Aalto, right, by Pierre Vago, centre, and Jaenecke and Samuelson, left, with the library by Werner Duttman in the foreground.



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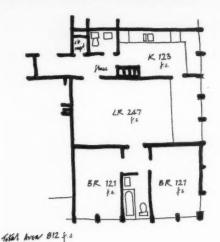
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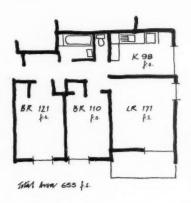
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Sketch plans of typical German (far left) and English flats (left), showing room sizes. The storage cupboard in the German example is a requirement, as are the flues.



Left, it is a regulation that one window in each flat has an 18-cm. space between the two sashes to accommodate plants.

floor to floor height should be 3 m. (9.85 ft.).

One exotic requirement of the regulations is for one window in each flat to have a space not less than 18 cm. between the two sheets of double glazing in order that plants may be grown there. Another regulation we came across which cannot help but make us sympathise with the architects is that each flat must have a separate flue for a stove in case the central heating cannot be maintained for any reason. In Berlin the architects have to watch out for the "Baupolizei" (building police), who seem to be a rather fiercer version of our District Surveyors!

In the course of our discussions we learned that the recommended standards for *heat insulation* are:

Outer wall 1	100	0.55	KCal	m²H/s	C (U	00	0.37	BThU/sq	ft/s diff.	F
Inside wall	-	0.30	22		(U	=	0.68		12	
(between flats or										
between flat and staircase)										
Floor to floor	-	0.55	99		(U	=	0.37	22	17	
Ground floor to										
basement	100	0.75	**	99	(U	=	0.27	11	**	
Roof	-	0.65	**		(U	200	0.31	**	99	
Floor to exposed underside (raised										
ground floor)	-	1.75	91		(U	=	0.12	**	93	

For sound insulation the following rule of thumb is

a guide to satisfying the provisional German standard (DIN 52211):

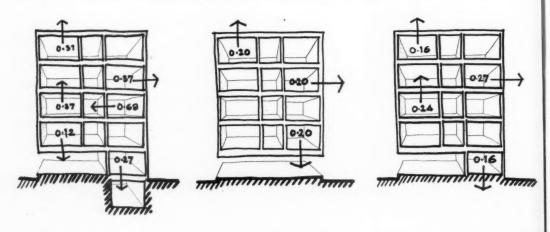
Walls between flats and between flats and corridors must weigh not less than 350 Kg. sq. m. (72 lb.) sq ft.) (if less, double walls are required).

Similarly, if a floor weighs less than 350 Kg. sq. m, constructions are recommended with floating floor (glass wool or coconut matting as insulating quilts), or with soft coverings and with special suspended ceilings (e.g., plaster on reed mattress). This and other technical information is admirably set out in an official book (Baunormung and Bauforschung) which is fully illustrated with examples.

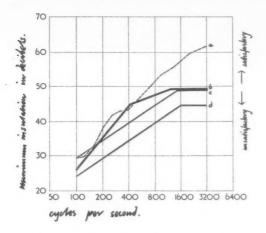
The recommendations correspond with our Codes, but in practice they become obligatory when public money is involved.

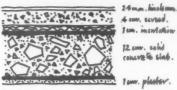
When architects from this country go for their summer holidays abroad they may well come to the conclusion that it is because of the better climate that buildings are generally cleaner and brighter than they are here; in particular that rendered or painted buildings seem to weather better in almost any country than ours, and that this is because the atmosphere is

Sketches showing comparative standards of heat insulation recommended: by the Germans (left); by the Code of Functional Requirements, England (centre); by an authority with experience of centrally heated multi-storey flats, England (right).



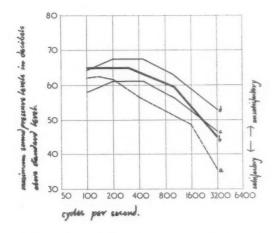
Graphs showing comparative gradings for sound insulation.



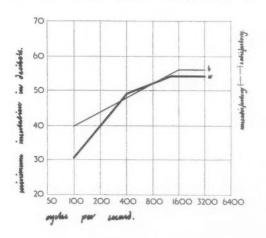


3. Construction submitted to German test (see graphs).

1. Air-borne sound between floors: (a) test example (see 3); (b) German Standard DIN52211; (c) English Standard grade 1 (flats); (d) English Standard grade 2 (flats).



2. Impact sound between floors: (a) test example (see 3); (b) German Standard DIN52211; (c) English Standard grade 1 (flats); (d) English Standard grade 2 (flats).



4. Comparative Standards of airborne sound insulation between houses: (a) German DIN52211 (houses and flats); (b) English (houses).

not so continuously damp. We had thought that the climate in Berlin was more "continental" than ours, having at least a fine dry summer: the official travel brochure begins enthusiastically, "The first breath of Berlin air. Crisp, exhilarating—extra dry, like a draught of champagne from the côte de blanc. . . ." A more realistic examination of statistics, however, shows that the rainfall and humidity in London and Berlin are almost identical and that the only apparent difference is that the winter temperature in Berlin is

Comparative figures for London and Berlin climates

Temperat	ure ° F.	London	Berlin		
January		41	31		
April		47	46		
July		63	64		
October		51	47		
Precipitat	ion in in.	London	Berlin		
Rain and	snow*				
January		1.8	1.9		
April		1.5	1.7		
July		2.2	3.1		
October		2.7	1.7		
Hours of	sun	London†	Berlin		
(daily ave	rage)				
January		1.8	1.7		
April		5.8	5.4		
July		5.6	7.0		
October		3.6	3.3		
Humidity		London	Berlin		
January	7 a.m.	89%	89%		
	1 p.m.	81%	80%		
April	7 a.m.	85%	83%		
	1 p.m.	62%	57%		
July	7 a.m.	80%	79%		
	1 p.m.	57%	57%		
October	7 a.m.	91%	92%		
	1 p.m.	70%	69%		

<sup>\*</sup> Berlin snow: falling November-April, lying December-March.

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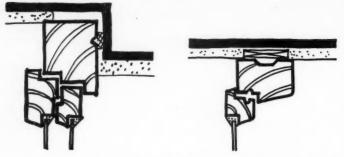
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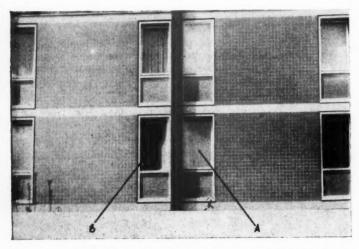
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<sup>†1957</sup> figures (i.e. July 1956-June 1957).



Left, section through head of typical German window. Right, section through head of typical EJMA window used in England.



Berlin windows all open inwards (we're told in Hamburg they open out!). This photograph shows the sash designed to open both as a hopper (A) and side hung casement (B).





some 10 deg. F. below ours, which results in a consider. able amount of snow. Nevertheless, rendered buildings are common, and although they darken with age they appear to weather evenly and not to suffer so much from the streaking which is so familiar to us in our large cities. We can only suppose that much of the trouble here is caused by an excess of soot rather than an excess of rain. On the other hand, the colder winter does give rise to one marked, and familiar, difference in design between many continental flats and our own: namely, the use of central heating and double glazing. Nearly all the windows in the German designed buildings we saw were double glazed, in separate sashes; and they were, without exception, made of wood. Many of them were of generous size, with large opening sashes. One suspected that the Berliners, living in flats and denied the Englishman's individual garden, were obliged to spend more time indoors, and having overcome the objection usually raised against large windows, namely, poor heat insulation, welcome them for the sunlight and the view which they provide. Furthermore, the craving for fresh air which is characteristic of the Englishman was noticeably absent-and how fortunate for the architect no longer hamstrung by the beastly "night vent"! Nevertheless, the Germans' ingenuity for devising special opening gear and fixtures of all kinds has prompted them to make a window which can open either as a casement or as bottom hung hopper; the latter permitting a relatively small amount of ventilation, mostly at the top of the window. Whether this arose from a concealed admiration for our night vents or from the sheer exuberance of producing cunning devices is open to question. Certainly our ironmongery trade has much to learn in imagination from the Germans, and we shall describe some of the windows and their gear in detail in a future article. It is almost a universal practice for windows to open inwards, and really it is difficult to understand why it is assumed that this would not be acceptable here, since it has many advantages. Again we will discuss this in greater detail later.

In all countries there persist, no doubt, curious features of buildings which appear to have little reason for their existence. One such feature which we noticed in Berlin was the wooden shutter provided for windows on the ground floor. It was said to be for protection against burglars, and one can only assume that English burglars are far less adept at making entry at ground floor level through windows than German ones, since we do not seem to find shutters necessary here. On the other hand we had thought that net curtains were peculiarly English and were disappointed to learn that they were now being increasingly and enthusiastically used in Berlin.

During our stay we visited some five or six housing estates and in one we were impressed by the apparent pride with which the Berliners look after both the flats themselves and the ground around them. There was evident a co-operative sense of responsibility for the upkeep of the whole environment, indeed we discovered that the tenants paid in their rent some contribution to the cost of its up-

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keep. The result was certainly good, and even allowing for the Berliners' traditional love of trees and flowers it was clear that they took a great deal of trouble with their landscaping and planting and it was noticeable that it was always done concurrently with the erection of any new blocks.

It is not difficult to find examples of the appalling barreness which pervades so many English schemes, though there are, of course, admirable exceptions. We saw no dismal asphalt playgrounds and no wire cages for children, nor for that matter many playgrounds at all. True, we did not see many children. Why, we do not know, and we must admit that by contrast with the problems created when estates are positively crawling with children, as so many of ours appear to be, the Germans must have an easier task. Nevertheless, we doubt whether the authorities there allow themselves to be so struck with terror as are our own by the possibility of being sued for damages by tenants whose child has perchance been foolish enough to harm itself. The extent to which design is inhibited here by safeguards against the remotest chance of mishap must surely have reached a peak. How pleasant it was to see no fences, grassed areas unmutilated, young trees unprotected but flourishing, and a general atmosphere of tidiness and freshness. If there were outhouses and stores and garages one was not aware of them nor was there any intruding vulgarity from ill-designed lamp-posts and other apurtenances. The buildings themselves could not all



Good street furniture and uncluttered landscape.

be said to be of outstanding design, but they were none of them either so dreary or so offensive as some in this country.

Many of them had shops at the ground floor which

The German landscaping is excellent and because it is carried out at the same time as the building gives an early sense of maturity to their schemes. Social housing at Steglitz, Berlin, by Professor Klaus H. Ernst.



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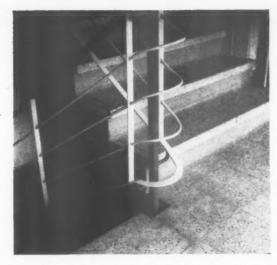




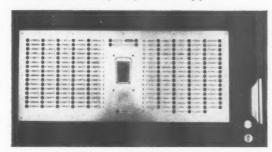


Top and above, social housing may often be dull but it is enlivened by occasional shops and is never vulgar. Left, provision for children achieved with delightful informality and apparently without the children destroying the neighbourhood.

seemed to give them life: and very much in contrast to our own custom here, the access to the block was always by a locked front door. The entrance halls and stairwells were enclosed and heated and their standard of finish was comparable with that in the individual flats: all of which seemed thoroughly civilized! There were no open staircases or exposed



A staircase in a block of social housing flats. Note the terrazzo treads showing a high standard of finish.



A typical push-button loudspeaker assembly used at the entrance to every block of flats. Such devices are used in England only in "expensive" apartments.

Flower boxes on a balcony in the flat by Jaenecke and Samuelson, Hansa Quarter.



access balconies, which have for too long been accepted in this country. To get in one must ring the bell of one of the tenants or of the caretaker, who then speaks through a loudspeaker adjacent to the entrance, and releases the lock of the door by remote control, a standard procedure in all the blocksindeed a regulation. This prevents strangers (and incidentally visiting architects) from wandering about the building as if it were common property. Letterboxes, too, are grouped at the entrance to help the postman. Undoubtedly a flat dweller must lead a life of some restriction, and we were told that many would have preferred a house and garden; but the Berliners accept the limitations of city life and do not attempt to impose on it the "backyard" mentality which persists-not without much to be said for it-in the English. The result, however, so far as the design of the flats was concerned, seemed to be to encourage a careful segregation of stores, refuse chambers, and other service amenities from the entrance proper, and to permit a high standard of finish with less fear of desecration by youthful artists and calligraphers. The whole conception of the circulation inside seems to be altered by the provision of the locked front door and of central heating, and since the German has no fear of hard work, the upkeep is meticulously

Every block had a laundry with a drying room adjacent, and these were used by each tenant at far longer intervals of time than would be customary in England, perhaps once a month. Presumably the Germans have more clothes and linen than us, but, however they manage it, there are no Monday washing lines on the balconies; instead flowers and plants were more in evidence.

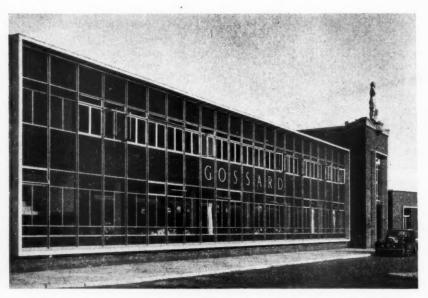
We felt that there was no stigma attached to "social housing," and that in general the tenant had learnt to respect the properties and to be co-operative. We wondered what they had to pay and were told that average rents for small flats (i.e., two room flats) was about 27s. a week. In one of the point blocks in the Hansa District, where the standard is admittedly a little higher, a bed sitting room flat (32 sq. m.) is let at about £1 a week (143 DM per sq. m.), with an aditional charge of about 10s, a week for central heating, but not including hot water. A large fiveroom flat in the Swedish block by Jaenecke & Samuelson cost 220 DM per month, including heating (about £4 12s. per week). When considering rents it is interesting to relate them to building costs. These were given to us as 60 DM per m. meter (2s. 103d. cu. ft.) for social housing and 90-100 DH m, meter (4s. 4d.-4s. 93d. cu. ft.) for the flats in the Hansa

We have said something as a background about the regular "social housing," but our principal object in going to Berlin was to examine the blocks in the Hansa Quarter. Each of these was designed, subject to the standard regulations, by an internationally well known architect and contained features of interest both architecturally and socially. We will describe some of the technical details and some of our own and the tenants' reactions to them in the next article.

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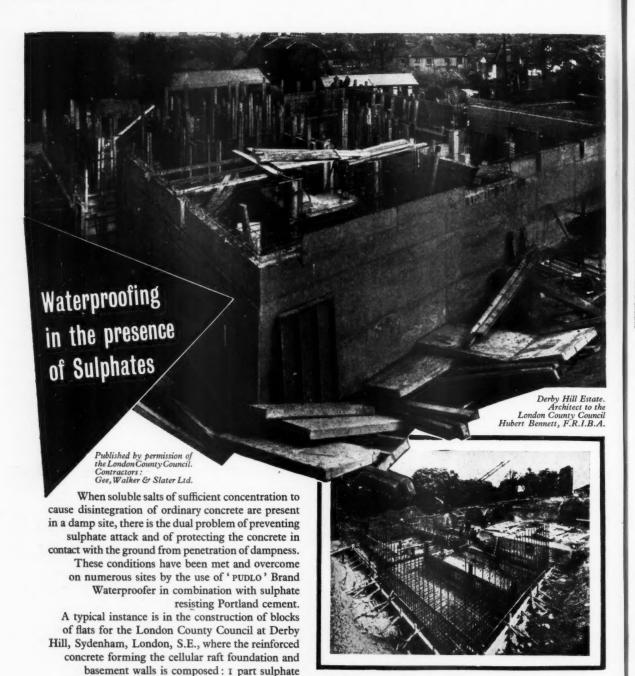
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#### BOSCAWEN BANK STREET, TRURO. CORNWALL



On this page and page 639 is the recently completed building for Martins Bank Ltd. at Truro, designed by Taylor and Crowther. Martins still appears to be the only bank which has opted for uncompromisingly modern buildings; one or two of the "big five" may have shifted ground slightly but work so far completed shows a reluctance to cast off the familiar classical respectability. The building accommodates the bank itself on the ground floor and part of the first floor and the remainder consists of lettable office space; the architects themselves have taken the third floor. The site is a narrow-fronted, deep plot between existing buildings. Left is the Boscawen Street frontage. The undersill panels are of tooled Delabole slate slabs and the projecting fascia at the top is of granite. On the ground floor the windows and doors are of stainless steel, with granite undersill panels; other windows are of anodised aluminium with vertical sliding sashes. In the banking hall, below, timber is used extensively but in simple plain surfaces. The deep room is lit mainly by a large suspended illuminated ceiling with plastic coffers. The elliptical enclosure in the background, seen in greater detail on page 639, top left, is a waiting and interview space. The thought of negotiating an overdraft in an acoustic cornerless cell may give rise to some panic, but presumably this still takes place in the sombre luxury of the manager's office, page 639, bottom. The single rose in the tall vase, and the display of cultural objects in the front of the desk, however,





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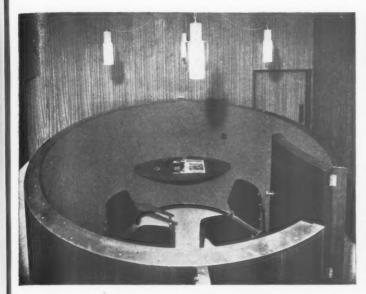
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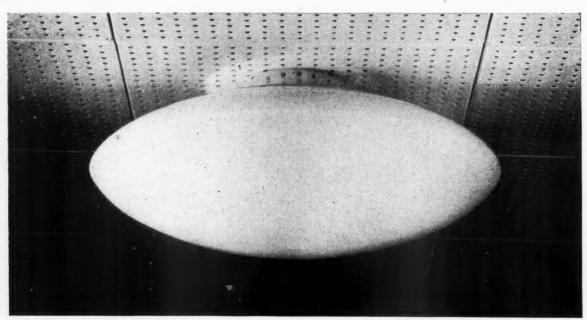
#### BANK IN BOSCAWEN STREET, TRURO, CORNWALL: continued



show that this is no ordinary bank manager. On the first floor is a small retiring room for the bank staff, right, with provision for tea-making.







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#### ARCHITECTS' OFFICES IN TRURO, CORNWALL



The official insistence that architects may not advertise has never applied to the interiors of their own offices and office, above, which shows an exceptional display of the many take good advantage of this fact. The architects' offices designed for themselves by Taylor and Crowther, on the third floor of Martins Bank Chambers illustrated

on the previous two pages, are entered by way of a reception architects' work. Even the back of the desk is utilised. Below left is one of the partners' offices; below right, a corner of the drawing office.





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Atlanta flat bottom helps to prevent slipping-ensures comfort.

Atlanta shallow step is safe for young and old. The Atlanta can be fitted to give an overall height of only 16".

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Taps can be fitted in three different positions to meet all possible requirements.

Corner tap mounting facilitates installation and maintenance.

The Atlanta is supplied with or without overflowwith or without handgrip.



BILSTON FOUNDRIES LTD . BILSTON . STAFFORDSHIRE . Illustrated literature is available on request.

#### THE INDUSTRY

Brian Grant describes cold rolled sections, thermo-plastic Formica, folding partitions and plastic covered piping.

#### Structural Steelwork

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Ellis & Co., of Newcastle, have for some time been producing castellated beams and are now incorporating cold rolled sections in steel structures of many different types. Cold rolled sections have been used in America for a number of years, even when there was no shortage of steel, because they were often cheaper and easier to erect. The sections used by Ellis are mainly channels, either plain or with external or internal lips, and are produced by rolling steel strip in various gauges, while arc welding is very largely used for shop assembly. Savings in cost are obtained by using structural members which are so shaped that they avoid the expensive trimmings and casings usually necessary with rolled joist sections and provision can be made for the direct attachment of windows and cladding materials. All structural members are degreased, phosphated and stove painted after fabrication, and if any steel is to be permanently exposed to the weather it is hot dip galvanized.

Box section stanchions are usually formed by welding pairs of inwardly lipped channels, and the square profile avoids difficulties at corners and re-entrant angles, allowing standard size windows to be used. Lattice beams and roof trusses for spans between 30 and 50 ft. are formed by using inwardly lipped

channels for the top and bottom chords, and plain channels for the diagonal struts and ties, and the bottom chords can be designed to give simple fixing for suspended ceilings of all types. Lattice beams for spans up to 27 ft. use a main tie of flat strip, as shown in the sketch below. The manufacturers maintain a design staff for structures of all kinds, including the use of composite structures using hot as well as cold rolled sections. (James W. Ellis & Co. Ltd., 30/32, Great North Road, Newcastle on Tyne, 2.)

#### Thermo-plastic Formica

This title is mildly misleading, as Formica is a thermo-setting material which can be bent into curves down to a radius of 8 in. or so but which cannot be softened by heat once it has been moulded to shape. Now,



Curved kitchen work tops made of Formica.

however, it is being produced in a postforming grade which is sufficiently thermoplastic to allow it to be formed into small radius curves which will retain their shape permanently. The process involves rapid infra red heating to a temperature of about 300 deg. F., after which the sheet can be bent and held in its new shape until it has cooled and set. Any number of bends can be made provided that they are in the same plane, but compound curves are not possible. The kitchen work top in the illustration above gives a very good idea of the work for which

this post forming grade is suitable. (Formica Ltd., De La Rue House, 84, Regent Street, London, W.1.)

#### **Folding partitions**

The illustration below shows Superfold partitions installed in a school hall. Both sides of the partition are covered in a washable leathercloth which can be supplied in a number of different colours and patterns, and the interior of the partition consists of a collapsible metal frame which folds in accordion fashion and is hung from an overhead track fitted with ball bearing pulleys. A single channel bottom track is an optional extra, and the partition takes up very little room when folded. (The Bolton Gate Co. Ltd., Waterloo Street, Bolton,

#### Plastic covered copper pipe

To protect copper tubing which has to be laid in aggressive soils or in solid floored dwellings which often contain substances made aggressive by dampness, Yorkshire Imperial are now producing Kuterlex polythene or p.v.c. covered copper tubing. It is claimed that the extra cost of the covering is no more than the cost of labour and protective tape for wrapping the pipe by hand, and for underground pipe line Kuterlex can still be laid by mole plough. Capillary fittings are recommended for jointing gas services, and the same, or compression fittings, for water services. The covering has to be cut back to make the joint, which should then be wrapped with black adhesive polythene or p.v.c. tape. Kuterlex is made in standard sizes from ½ to 1¼ in., either to BS 659 or 1386, but special sizes down to in. are also made in a range of wall thicknesses and in long lengths for instruments used in corrosive atmospheres. (Yorkshire Imperial Metals Ltd., P.O. Box 166, Leeds.)

Below, two versions of the new cold rolled steel section by Ellis & Co. Right, Superfold collapsible partitions used in a school hall.









# On the one hand.

where time is the essence of the contract and labour costs must be kept to a minimum—the paint to select for thoroughly satisfactory results for interior walls and ceilings is

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# On the other hand.

when a supremely high standard of gloss finish is to be achieved by craftsmen who take pride in the results the specification will, without doubt, be "Superlative," the paint of high-gloss perfection that does not 'bloom'. When great projects are planned, where longlife protection is essential, whether for exterior or interior use.



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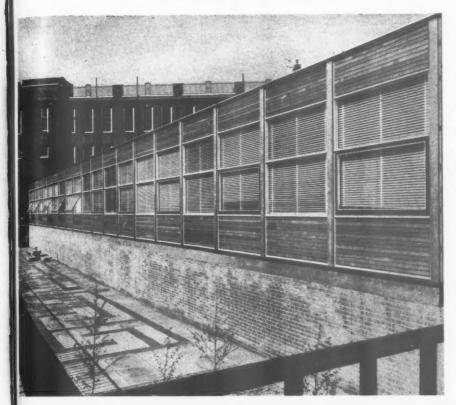
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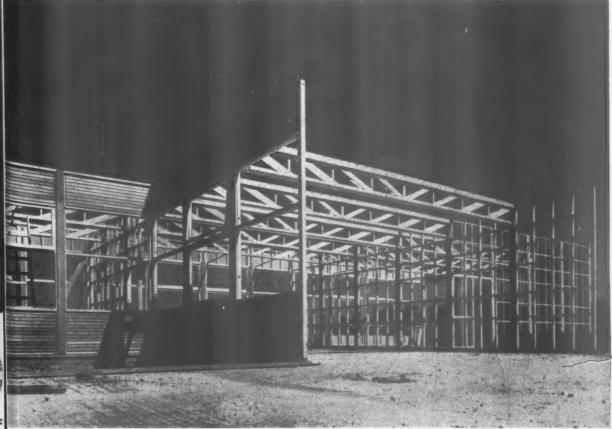
#### TWO PREFABRICATED TIMBER SCHOOLS



Medway MK 5 is a complete system of prefabricated timber components for constructing buildings of one or two storeys on a 6-ft. 4-in. planning module. Illustrated here are extensions to Starcross County Secondary School (left), for the London County Council, and Tile Cross High School (shown below, under construction), for Warwickshire County Council, both of which have been built in the system. The two buildings were designed by Architects' Co-Partnership; that at Tile Cross being designed in collaboration with G. R. Barnsley, Warwickshire County Architect.

Planning: The structural grid is 6 ft. 4 in. and buildings may develop in two directions on this dimension. It is also possible to use half-module dimensions except where windows occur in external walls. Openings at the changes of direction of the structure are possible to a limited degree by the use of trimmer beams.

Spans range from 6 ft. 4 in. to 25 ft. 4 in. for floors and from 6 ft. 4 in. to 44 ft 4 in. for roofs. There are four room heights—8 ft. 3 in., 9 ft. 9 in., 12 ft. 9 in. and 15 ft. 9 in.—and changes of level can be made in increments of 18 in. There is no staircase designed for the system, but timber staircases have







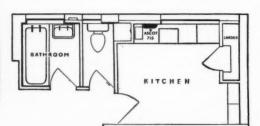
Service



Tower Court Flats, Clapton Common

# ASCOT IN NEW HOUSING (7)

Tower Court Flats, Hackney, is one of a number of schemes designed by different architects around the perimeter of Clapton Common for the Hackney Borough Council. Tower Court consists of 2 blocks of flats: a four-storey block containing 16 two and



PLAN OF KITCHEN AND BATHROOM IN A TYPICAL TOWERCOURT FLAT SHOWING POSITION OF ASCOT715

three-bedroom maisonettes, and a nine-storey block containing 51 flats of bed-sitting room, one-bedroom and two-bedroom design.

To provide an instantaneous hot water service throughout all the flats at Tower Court, Ascot 'balanced flue' multipoints were installed in the kitchens.

#### RESPONSIBLE AUTHORITIES

Director of Housing Development: Geo. L Downing, O.B.E., M.I.C.E., M.I.Mun.E., A.M.I.Mech.E.

Architect: Harry Moncrieff, F.R.I.B.A., A.M.T.P.I. of Co-operative Planning Ltd.

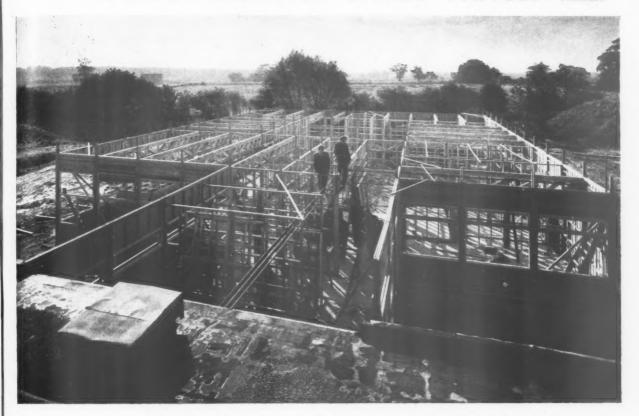


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structure study

#### PREFABRICATED TIMBER S C H O O L S: continued



been used at the Tile Cross School, designed for that specific job. Above is the two-storey block in construction at Tile Cross. Heating pipes are in position within the roof thickness of the singlestorcy link and the floor thickness of the two-storey block.

External panels: The system is based on columns which, when bolted together with the panels on either side become a structural entity. There are approximately 50 external panel types and these, within each height range can be

used on first or ground floor without variation. No special corner panels are necessary because the longitudinal centre line of the panels coincides with the column centre line and the thickness is the same as the square core of the column. Panels are of two basic types. One is a window panel which has a painted frame with horizontal boarding in those places where glass is not required. It is possible to use this panel glazed from door to ceiling, whereas the second type of panel is virtually a solid

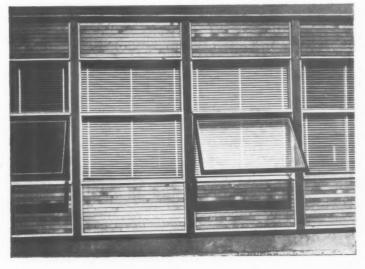
wall. It has vertical cedar boarding and no painted surround. These panels are pierced for door openings and for windows at clerestorey level only. Below is a detail of the external panels at Starcross. The white painted framing to the window panel has western red cedar boarding infill, left unfinished. Column facings are also in cedar.

Opening lights at low level are top-hung projecting windows and at high level are top-hung hoppers. Considerable difficulty has been experienced in finding a top-hung hopper which does not foul blinds or curtains and which at the same time is economical.

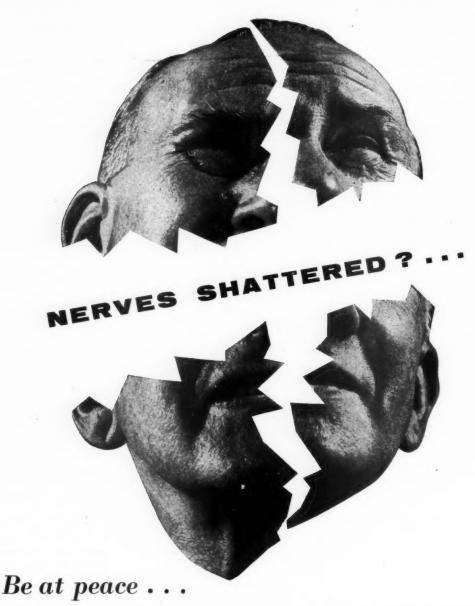
Internal panels: Internal panels are timber framed and where coincident with beams are capable of carrying floors or roofs, which also applies to external panels. There are various forms of internal panel with glazing, etc.

Wall linings: All walls are lined with 1-in. plasterboard, with an aluminium foil backing for thermal insulation on external walls.

Columns: The columns are of composite box section, screwed and glued together, the external member being of western red cedar. The other members, because of structural requirements, are of Baltic redwood and Douglas fir. All columns for two-storey buildings have an additional 3 in. of timber over the structural requirements on the inner faces to provide a fire resistance of half







The demand for noise reduction is now a major factor in the design and construction of modern buildings. Leading architects everywhere are finding that the Armstrong range of Acoustic tiles can solve their problems of sound-conditioning and achieve new and pleasing decorative effects, simply and economically.

**Travertone,** a mineral wool tile, with Class I Firerating combines high sound absorption with exceptional light reflection. The fissured surface provides a distinctive and attractive finish. Made in  $12'' \times 12''$  and  $12'' \times 24''$  tiles  $\frac{3}{4}''$  thick, square or bevel edged.

Corkoustic, an all cork tile, particularly suitable for high humidity areas. With good sound absorp-

tion, it provides excellent thermal insulation and its flexibility makes it ideal for arched or vaulted ceilings. Available in  $12'' \times 12''$  tiles, 1'' thick with plain or striated finish.

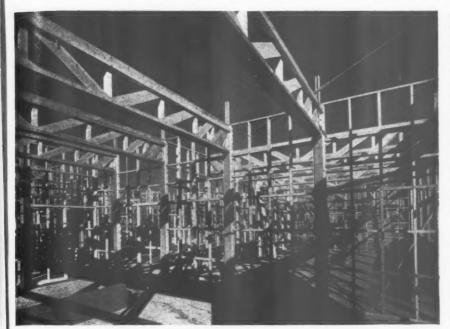
**Perforated Fibre Tile,** is made from wood-fibre board and gives a high noise absorption rate over a wide range of frequencies. Standard or random perforations give interesting decorative effects. Available in 3 sizes—12"  $\times$  12", 12"  $\times$  24", 24"  $\times$  24" and in thicknesses of  $\frac{3}{4}$ " and  $\frac{1}{2}$ ".

Installation in existing or projected buildings is undertaken by approved acoustic tile fixers and Armstrong's Acoustic Contracts Dept.; their Technicians are always at your disposal.

# Armstrong ACOUSTICAL CEILINGS

Armstrong Cork Company Ltd. Acoustics Department, Kingsbury, London, N.W.9. Colindale 7080

#### TWO PREFABRICATED TIMBER SCHOOLS: continued



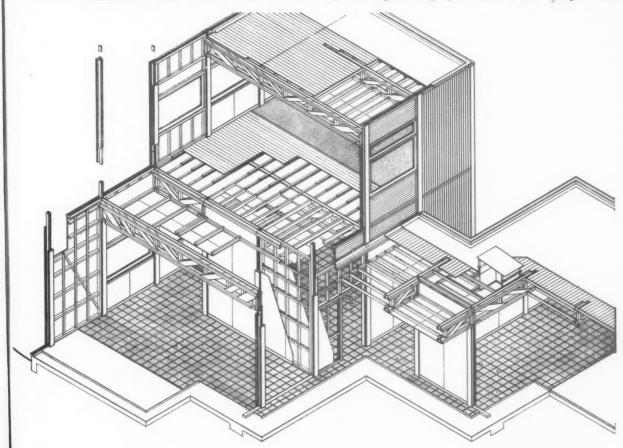
an hour without the addition of any other fire resisting casing. Columns for two-storey buildings are in two pieces spliced together on site.

Beams: The beams for roofs are

I ft. 8 in. deep and for floors 2 ft. 0 in. deep regardless of span. Exceptions to this are for the long span roof beams 38 ft. 0 in. and over, when the top boom has a slight double pitch. They

are of lattice construction and are made of Douglas fir and Baltic redwood with joints glued and pinned. The isometric below shows typical two-storey and single-storey construction. Left is the inside of the two-storey block at Tile Cross. Projecting timbers are splice members to receive first floor columns. Roofs and floors: Roof panels, constructed from joists and t. and g. boarding, span between the top booms of beams, and are prefabricated 6 ft. 4 in. square. The first layer of roofing felt is factory-fixed to protect the timber during erection. Roofs are laid without a fall except for the big spans.

Floors are of t. and g. boarding, sitefixed to battens which are laid parallel to the joists and float on foamed polystyrene pads. The space between the joists is plugged with flocculent gypsum. Both these measures are to reduce sound transmission. Floor coverings are not included in the system, but it is recommended that a relatively soft surface be used to reduce impact noise. Ceilings: Ceilings are suspended below the beams and are flush throughout. The material used is plasterboard, which can be perforated (with absorbent backing) or plain, depending upon the acoustic correction required. Both the jobs illustrated have ceilings of half



structure study

#### TWO PREFABRICATED TIMBER SCHOOLS: continued



perforated and half plain. Above is the housecraft room at Starcross. The size of the ceiling tile is 3 ft. square and each group of four panels is separated on the grid line by 4-in. softwood strips. The ceilings to ground floors of two-storey buildings are of perforated acoustic asbestos gypsum tiles throughout.

Services: Usually, and particularly where frequent drops to radiators are not required, the services for the building can be carried in the space above the ceilings, passing through the lattice beams. This does to some extent avoid floor trenches, and sometimes—as at the Tile Cross school—eliminates them entirely.

The roof insulation is a 1-in. mineral wool mat laid on the ceiling joists and taken up over service pipes. It is a matter of opinion whether further lagging is required to the pipes.

Cost: Although the system has not been in production for sufficient time for any accurate compilation of cost information, the following three jobs may give some guide to costs as far as schools are concerned:

All these jobs included 50 per cent. acoustic and 50 per cent. plain ceilings. The Newbold school shows a rise in cost of is. 81d. per sq. ft. over that at Tile Cross, while its external wall to floor area ratio is less. This is accounted for by a rise in the cost of materials and because, on the smaller job, the external wall surface does not decrease proportionately to the reduction in plan area. The costs of the Ripley school are higher because of the high ratio of external wall surface to floor area (due to the building being divided into small units to counteract mining subsidence). The only conclusions that can be drawn from these figures at this early stage are that on schools work, a ratio of less than 0.60 external wall to floor area should be aimed at to obtain a figure of 30s. to 35s. a sq. ft. for the Medway MK 5 superstructure, depending on the size of the job.

The system itself was designed by Architects' Co-Partnership, with Ove Arup and Partners as consulting engineers; it is manufactured and erected by Medway Buildings and Supplies Ltd.

	Tile Cross High	Newbold	Ripley Secondary
	School	Secondary Modern School	Modern School
	(510 cost places)	(12-class instal- ment of 600 cost places)	(510 cost places)
Date of contract:	December, 1956	November, 1957	February, 1958
Total floor area: (excluding boiler houses)	37,317	13,560	34,000
Ratio, external walls to floor area:	0.590	0.580	0.895
Cost per sq. ft., superstructure only:	30s 3½d	32s od	36s od

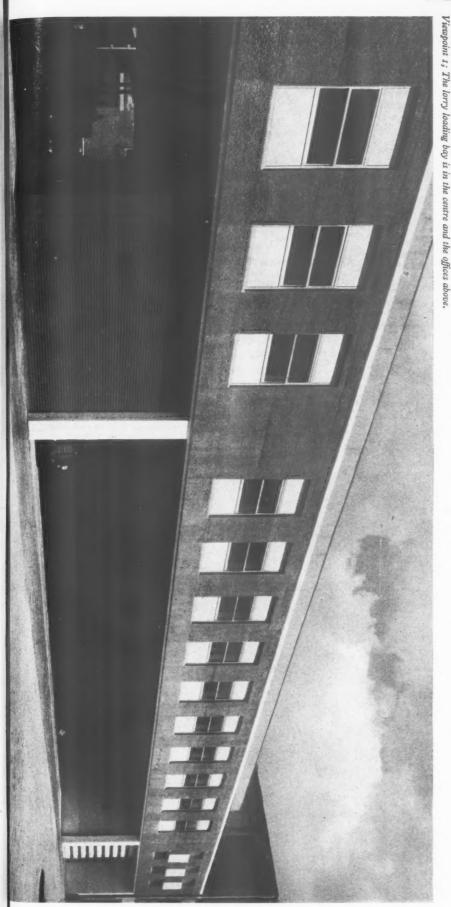
# building illustrated

# WAREHOUSE

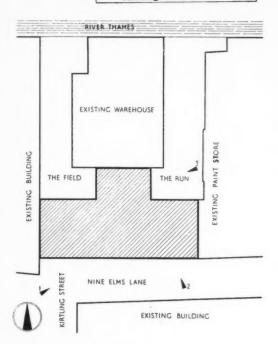
A. B. LEVY, J. SHAW, P. C. WALLER; quantity surveyors YOUNG and BROWN; structural consultants F. J. SAMUELY and PARTNERS in NINE ELMS LANE, LONDON, S.W.8; designed by J. M. AUSTIN-SMITH and PARTNERS; partner-in-charge GEOFFREY SALMON; assistant architects.

paint factory which it adjoins. The scheme is interesting for its economical

This new warehouse has been built for use in connection with the existing use of a restricted site and the pre-planning undertaken to ensure that building did not dislocate production or obstruct access to the existing works.

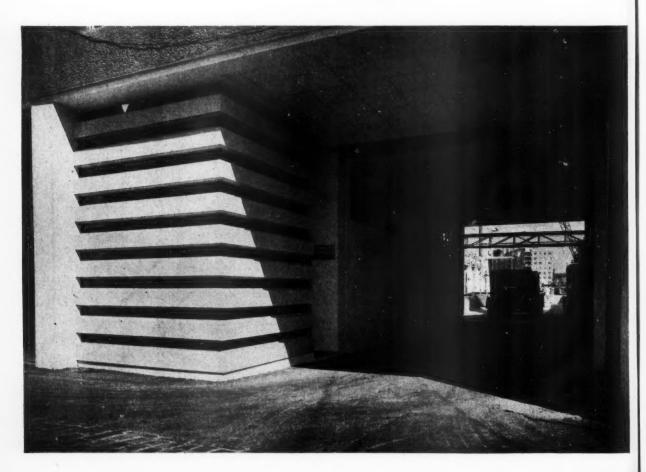


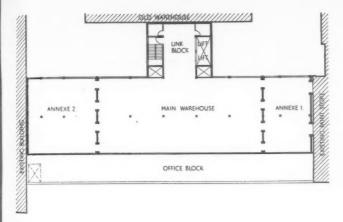
#### building illustrated



Site plan showing photographic viewpoints

The architects have arrived at a building of robust character, consistent with its function and the heavy loads to be carried, and yet have achieved a building of considerable elegance which stands out among its rather drab neighbours. This may be to some extent dependent on keeping painted surfaces in good condition, but should not be difficult since the proportion of natural and etched exposed concrete and dark blue brick infill panels is large in comparison with the thin lines of the structural frame and the thin set-back edge of the office elevation. The south elevation (page 647) is interesting in that to facilitate lorries turning into the loading bay all but four stanchions have been omitted, and the wall above has been turned into a Vierandeel beam spanning 95 ft., with partial cantilevers at each end. A special dark aggregate was used in the concrete mix and the external surface bush hammered to achieve a coarse texture and expose the aggregate. A conscious effort was made to control the position of joints between concrete lifts, though more care could have been taken with certain of them; the general effect however is good and proves that this technique deserves wider use. The power operated roller shutters are broken down into bays with dividing sections which can be swung up under the ceiling, out of the way. The building is pierced at each end to give through access for lorries delivering materials to the existing factory. Viewpoint 2 (below): the east entrance with a view to the river and Pimlico flats. The stair shaft, left, is formed of alternate bands of glass and pressed steel sections, which besides affording protection from possible damage by unwary lorry drivers, is in keeping with the strong character of the building and gives an interesting lighting effect within.





Second floor plan

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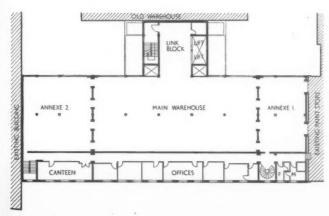
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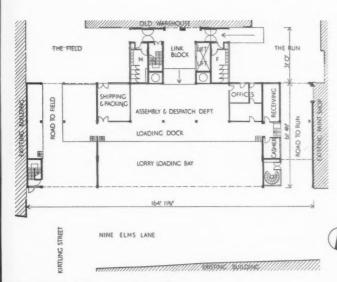
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First floor plan



Ground floor plan (Scale: 38" = 1'0"]

analysis

#### CLIENT'S REQUIREMENTS

A new warehouse was required to replace an existing one, only the ground floor of which remained after severe bomb damage during the war. The new building had to provide storage space for finished paint products, offices, a canteen, a packing and despatch department and a covered loading bay.

#### PLANNING AIMS

It was decided to site the new building directly fronting the main road access to the premises, linking directly with the existing production building at all floor levels and the remains of the existing warehouse, thus ensuring a smooth flow of finished products from factory to despatch department and eliminating space-wasting roadways. To do this, however, raised considerable problems because production, deliveries and the organisation of the existing factory had to be carried on as normally as possible during construction. The architects therefore worked out the detailed preplanning of their work, which covered the production of drawings, and appreciation of the erection sequences which the general contractor might adopt. Prospective tenderers were consulted two months before tenders were invited, so that they should have a full appreciation of the problems involved, and detailed 1-in. scale drawings were issued to each contractor with the bill of quantities. The successful contractor then prepared a very full programme, detailing every operation required for work below ground level. Three hundred 50-ft. piles had to be bored across the width of the site without disrupting traffic to the existing works. Five weeks of concentrated study by architect and contractor was put into preparing progress schedules detailing not only the general progress in terms of weeks, as is normally the case, but in days, parts of a day, site equipment and work teams, and the clients were consulted on the proposed phasing during this time. The most significant fact about this procedure is that no work began until everyone was completely convinced that the programme was realistic and possible.

#### SUMMARY

Ground floor area: 11,315 sq. ft. Total floor area: 30,310 sq. ft.

Type of contract: RIBA form with quantities.

Tender date: November 16, 1956. Work began: January 1, 1957. Work finished: May 23, 1958.

Tender price of foundations, superstructure, installations

and finishes: £125,344 8s.

Tender price of external works: £9,910 1s.

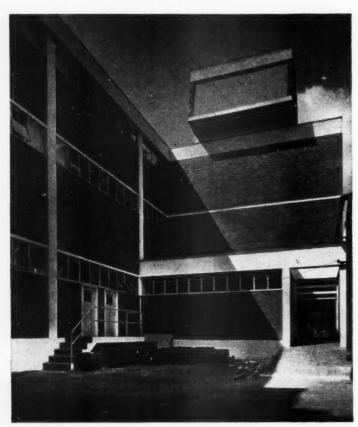
Total: £135,254 98.

	cost per sq. ft.	S	d
Preliminaries and insurances		8	34
Contingencies		3	3

15 21

Work below ground floor level Piling, pile caps and ground beams, ground floor slabs, basement and cable conduits.

#### building illustrated

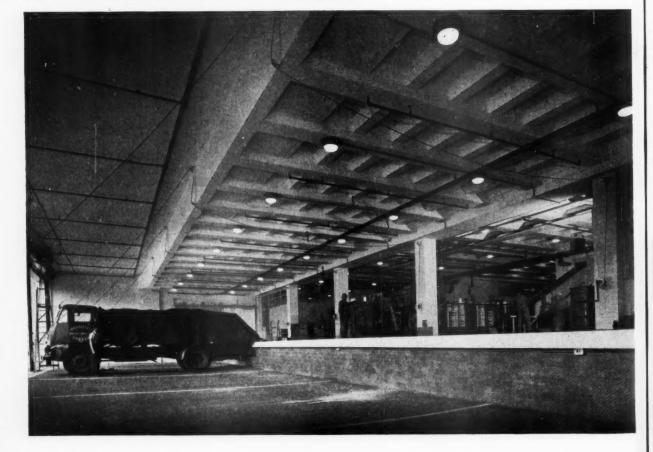


Viewpoint 3 (left): coming through to the back we see the exposed concrete frame painted a very light grey, panel walls are of blue black clay bricks. The two upper rows of clerestory windows light the storage floors, and the bottom row lights the cloakroom and office space. The unusually high ground floor level was necessary to line through with the remaining floor of the old warehouse and gives the correct height in the lorry loading bay. The lift machine room surmounting the link to the existing warehouse is a fairly prominent feature, to be seen from the other side of the river, with its panels of light blue glazed tiles, and it is possible that the company's trade mark may be mounted on the brick panel which faces this way.

In the covered loading bay (below) the vertical face of the platform is surfaced with dark blue paviors to avoid stains showing
from lorry exhausts. Main beams and stanchions are fair-faced
in-situ concrete, and the floor construction of in-situ secondary
beams and precast, coffered infill units can be plainly seen. The
step in the ceiling was required to give adequate headroom and is
formed by the lower part of the structural wall between warehouse floors and offices, which, like the external office wall, spans
95 ft. The architects prepared layout drawings for the sprinkler
system and other services, to ensure a neat arrangement of pipe
runs, and the pipes are picked out in bright colours against the
very light grey painted walls and ceilings.

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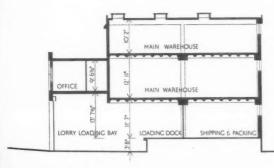
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From the loading bay one passes to the packing and despatch area which is linked to the remaining floor of the existing warehouse and contains two service lifts for bulky packages and two spiral chutes for conveying similar items from the warehouse floor above. Order lists are sent from one department to another by means of Lamson tubes through which small cylinders are pumped by compressed air.



Cross section [Scale: ½" = 1' 0"]

Fire insurance regulations called for a maximum room cube of the million cu. ft., necessitating the firebreak wall seen in the background. Floors are finished with integral granolithic paving, walls are fairfaced brick, painted, and ceiling and structural walls and columns are of painted, fair-faced concrete. The small degree of heating required is provided by high pressure steam unit heaters, served from an existing boiler house.



# analysis

STRUCTURAL ELEMENTS s d Frame or load bearing element 12 81 R.c. columns, walls and beams including Vierendeel beams. 2 43 External walls Brick panel filling, 9-in. walls of light concrete p.f.a. blocks, external facings, rendering, tiling and fair finish to exposed concrete. Expansion joints next adjoining buildings. 61 solid wall 0.267 Ratio: floor area Windows 1 51 Internal and external sills, adjustable louvre windows 0.036 floor area External doors 3 31 Timber doors and frames, steel roller shutters, rubber doors and steel roof trap door. doors 0.109 Ratio: floor area Upper floors 4 5 Precast concrete trough floors, 14,625 sq. ft.; hollow tile floors, 2,583 sq. ft.; in-situ concrete, 1,008 sq. ft. Superloads: warehouse 500 lb.; offices 50 lb. per sq. ft. 9 Landings and central concrete column to spiral stairs. Balustrading. 6 Cat ladders, external steps and balustrading. 31 Roof construction 2 54 Type of roof Area of each type 6-in. r.c. slab 8,775 sq. ft. 8½-in. hollow tile 2,565 sq. ft. Cube to edge of roofs.

Roof lights
Area: 658 sq. ft.

Area: 658 sq. ft.

Glazing
External doors and all windows

29s 41d

#### PARTITIONING AND FITTINGS

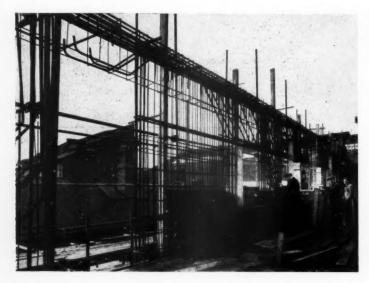
Total of structural elements:

Internal partition	S		113
Type of partition		Area	
Brick		158 sq. ft.	
Lightweight p.f.	a. blocks 4	59 sq. ft.	
Glazing in borro	wed lights.		
Screens			10-
Type of screen	Area		
Steel	1,045 sq. ft.		
Plywood	1,596 sq. ft.		
Aluminium	390 sq. ft.		
Glazing to steel	and plywood so	creens	

#### building illustrated



The warehouse floor, shown under construction above, is designed to take a load of 5 cwt. per sq. ft. The main and secondary beams are cast in-situ with infilling panels of precast coffered units, measuring 2 ft. 6 in. by 4 ft., the use of which saved a considerable amount of shuttering work. The circular holes in the precast units are to allow for future services, should the use of the building change. They are at present plugged off.



Left, steel fixing and shuttering being prepared for the Vierendeel beam spanning the loading bay and forming the outside wall of the office block.



The spiral staircase is made of repeated precast concrete units forming a central spine and terrazzo faced treads with non-slip inserts. The balustrade is of steel rods bolted through the concrete and with brass ferrules. The steel sub-handrail is covered with a clip-on plastic extrusion.

For the secondary staircases expensive balustrading has been avoided by making use of standard sections of wire mesh screening running up from floor to ceiling between the two flights. Handrails are painted tubing bracketed off fair-faced brick walls and the central dividing screen.



#### analysis

s d 3 114

#### **Internal doors**

Timber doors and frames including glazing, roller shutters, steel fireproof doors and hatch to basement.

No. of single doors, 34.

No. of double doors, 2 pairs.

I roller shutter.

3 fireproof doors.

21 sliding doors.

Ironmongery

31

Anodised aluminium lever handles and kicking plates, and door pushes.

81

111

2 0

1

Radiator casing, pipe duct covers, hat and coat and guard rails, blind box rail, venetian blinds, mirrors, mats and wells, incinerators, hoist in basement, tables to Lamson tubes, and protective guards to soil pipes in "through road."

Total of partitions and fittings:

6s 9d

#### **FINISHINGS**

Floor finishes			2	1
Type of finish	Area in	Price per		
	sq. ft.	sq. yd.		
Cement and sand paving	454	9s 81d		
Granolithic paving	17,311	9s 8d (average)		
Tarmacadam paving	5,962	7s 4d		
Shot faced quarry tile paving	3,957	48s 10d		
Tessellated tile paving	414	39s		
Chequered paviors	160	39s 9d		
Terrazzo paving	449	61s 3d		
P.v.c. tiles	2,610	30s 71d		

Wall finishes Warehouse, fair faced brickwork, painted.

Offices, plaster painted.

Skirtings, column guards, tiling and guard to front of loading platform, all screeds and keying.

Ceiling finishes 51 Fair face to exposed in situ concrete.

**Roof finishes** 

Lightweight screed, 3-coat asphalt. All skirtings, coverings to curbs, aluminium flashings.

1 33 Decorations Internal and external, client's own paints.

6s 10½d Total of finishings:

#### SERVICES

**External plumbing** C.i. rainwater pipes and outlets (generally internal).

1 41 Cold water installation

Adaptation of existing water main and Artesian well supply. Galvanised steel generally.

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#### analysis

Sanitary fittings		S	d 23
Type of fitting	No. of each type		-4
W.c's.	10		
Basins	14		
Sinks	1		
Urinals	I two-stall		
	ı slab 8 ft. long		
Drinking fountain			
Waste disposal, g			21
	nite glazed floor channels.		
Heating, hot water	r and ventilation	2	41/2
	s to duct and lift shaft.		
	rs served from existing boiler house.		
Calorifier serving	convectors in offices.		
Electrical installat		3	$0\frac{1}{2}$
Excavation for ca	bles and extensions to main and		
temporary supplie	es.		
Lifts and other mo	echanical services	5	81
Lifts, sprinkler sy	stem, sealing off existing gas		
supply, builders	work in connection with spirit		
tank, conveyor ch	nutes and fire main.		
Total of services:	12s 11 <sup>3</sup> ⁄ <sub>4</sub> d		
Drainage		2	4
Brown glazed floo	or channels and gratings and		
works to existing	drains.		
External works		3	11/2
Paved areas, ram	ps, reinforced concrete construction		
outside building	and relaying of public highway		
to new levels (cro	ossover).		
Demolition, etc.			5
First Aid room (i	in another building)		6
Total per sq. ft.	of floor area:		

#### COST COMMENTS

£125,344 8s (net cost excluding external works)

30,310 sq. ft. (floor area inside external walls)

Examining the distribution of costs of this building, attention is immediately focused on work below ground floor level and preliminaries and insurances. The work below ground floor level at 15s 21d per sq. ft. of floor area represents nearly 20 per cent of the total outlay, and indicates some of the site difficulties encountered by this Thames-side building. Preliminaries account for 8s 3½d per sq. ft., but one wonders how much of the preliminary work needed to plan this project was reflected back in the cost, or how much was absorbed by the elimination of time and money wasting factors and increased efficiency on the site. A more detailed report of the site problems and their solutions would undoubtedly make an interesting cost study. Structural elements: much of the building is given over to large, uninterrupted floor space and the warehouse floors are designed for heavy loads, so the emphasis in this group of elements is on "frame" and "upper floors." Partitions and fittings: most of the money spent on this group has gone on specialised doors and roller shutters. Services: the analysis gives no standard of the lighting or heating provided, but it appears that the main source of heat is tapped from the existing building. Because of its function the building had to incorporate very thorough fire precautions, such as fire main, sprinkler system, and fireproof doors, and the choice of materials was no doubt

made with the need for fire prevention and resistance in mind.

It is noted that "no work began until everyone was completely convinced that the programme was realistic and possible." This had a direct bearing on the cost, Other clients please copy.

#### SITE ORGANIZATION

At the start of the contract the clients insisted that their production and deliveries should be maintained and as the site was crossed by an access road at either end the most careful planning was necessary.

Some five weeks before work started on site the planning team, consisting of the agent who was to manage the contract, the contracts manager and the planning engineer, started work. In the early stages they consulted the piling sub-contractors and a detailed programme for the piling and other work below ground floor was drawn up. The architects co-operated whole-heartedly at this stage and the final programme was in every sense a team effort.

At four-weekly intervals detailed programmes were produced on the basis of the latest information on available labour, plant and materials.

Once the building was out of the ground the planning team devoted a great deal of thought to the problem of casting the Vierendeel beam. Not only had the most effective form of shuttering to be designed but also the best form of centering. On this problem the consulting engineers gave a great deal of help in calculating loads, etc. It is of interest that eventually the centering of the office wall and floor was done by scaffold tube and over 10,000 ft. of tube was used.

During the course of the contract regular site meetings were held when architect, main contractor and subcontractor were able to plan the work for the coming weeks.

The contractor's work, both in the planning office and on site, was made much easier by the very full and detailed drawings provided by the architect and it must be said that 95 per cent. of these were issued before work on site began.

#### CONTRACTORS

=82 81

General contractors: Howard Farrow Ltd. Sub-contractors-Heating and water services: Engineering Service Installations Ltd. Piling: Piling & Construction Co. Ltd. Lift entrano framing and overgate panels: Potter Rax Ltd. Electrical installations: Berkeley Electrical Engineering Co. Ltd. Thermoplastic tiles to offices: Marbolith Flooring Co. Ltd. Asphalting: Val de Travers Asphalte Ltd. Fireproof doors Dreadnought Fireproof Doors Ltd. Automatic sprinkler and fire alarm system: Mather & Platt Ltd. Lifts: Express Lift Co. Ltd. Roof insulation: Celcon Ltd. W.c. compartment partitioning: Venesta Ltd. Steel partitioning and handrails: Steelbrac Ltd. Glazed screen to spiral staircase, handrail and radiator grilles and expansion joints: H. & C. Davis & Co. Ltd. Pneumatic tube system: Lamson Engineering Co. Ltd. Steel windows: Crittall Manufacturing Co. Ltd. Spiral chutes: Sovex Ltd. Steel rolling shutters: Dennison Kett & Co. Ltd. Detailed design of reinforced concrete and supply of stee reinforcement: GKN Reinforcement Ltd. Lift steelwork: Dorman Long (Bridge & Engineering) Ltd. Bricks and paviours: R. Passmore & Co. Ltd. Louvre windows: Henry Gardner & Co. Ltd. Precast floor trough panels: Girlingstone Co. Ltd. Ironmongery: G. & S. Allgood. Door mats: Tyre Products Ltd. Incinerators: Saniguard Appliances Ltd. Aluminium windows: Allan H. Williams Ltd. Paints, glass and putty: T. & W. Farmiloe Ltd. R.c. spiral staircase: Modular Concrete Co. Venetian blinds to offices: Danuara Ltd.

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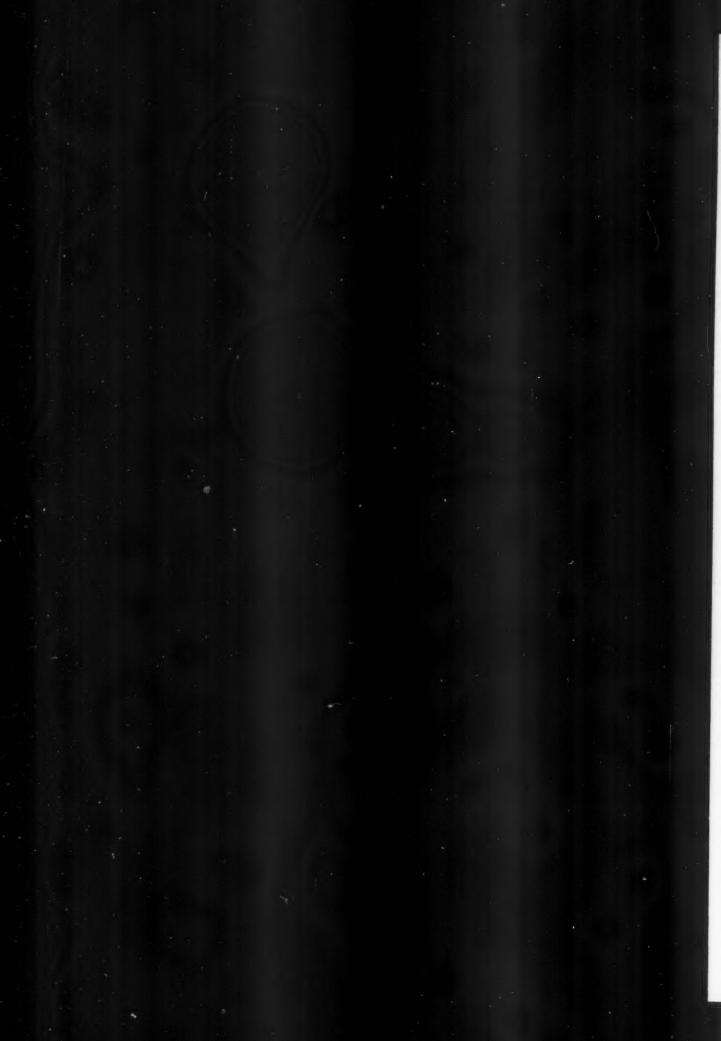
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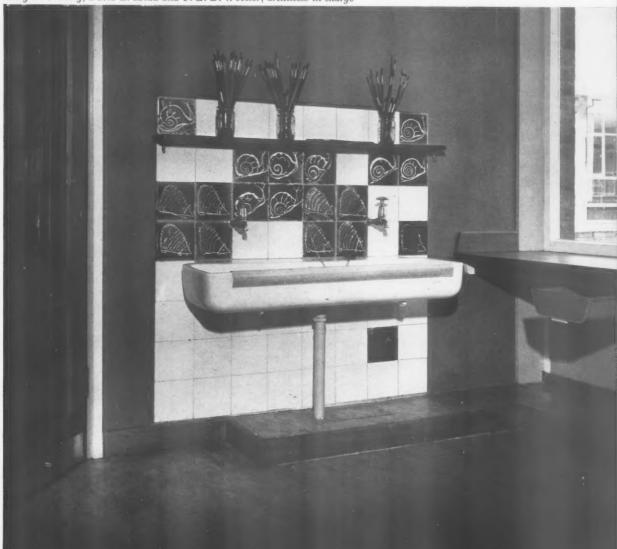
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#### CLASSROOM SINK: SCHOOL AT AMERSHAM, BUCKS

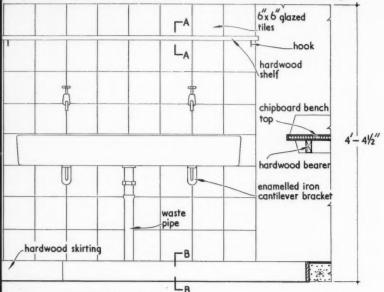
Chief Architect's Department, M.O.E., in collaboration with the County Architect, Buckinghamshire County Council; J. S. B. Coatman, Mary B. Crowley, David L. Medd and C. E. D. Wooster, architects-in-charge



This detail is of interest for the care shown in detailing. The sink itself was designed for the purpose, its elongated form enabling several children to use it at once. The dimensions of the back face tally with those of the tiles and the placing of the taps in the wall makes for easier cleaning. The bracketing of the shelf is concealed within the shelf thickness and the tiled splashback is interrupted to avoid cutting. The inclusion of a plinth below both sink and benches provides a place for buckets, etc., when the floor is being cleaned.

#### CLASSROOM SINK: SCHOOL AT AMERSHAM, BUCKS

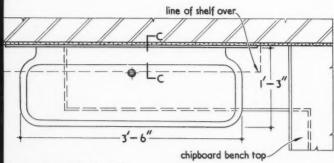
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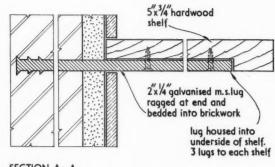
1/2" rendering 5x3/4 hardwood shelf 6x 6x 1/4 glazed tiles 3-6"x1-3"x6" white fireclay trough hardwood lipping to bench top plinth with hardwood skirting

ELEVATION. scale  $\frac{3}{4}'' = 1' - 0''$ 

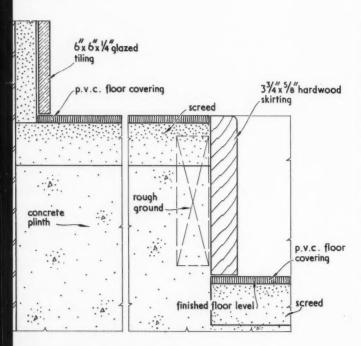
END ELEVATION.

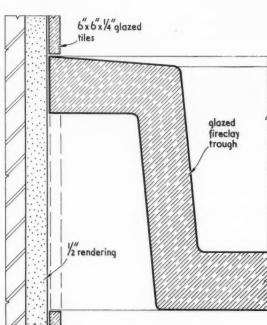


PLAN. scale 3/4"= 1'- 0"



SECTION A-A





SECTION B - B. scale 1/2 full size

SECTION C-C. scale 1/2 full size

ROOFLIGHTS: SCHOOL AT AMERSHAM, BUCKS

Chief Architect's Department, M.O.E., in collaboration with the County Architect, Buckinghamshire County Council; J. S. B. Coatman, Mary B. Crowley, David L. Medd and C. E. D. Wooster, architects-in-charge



These rooflights are placed 2 ft. from the back wall to give preferential lighting not only to the main chalk board but also to the surrounding surfaces to avoid glare. The rooflight reveal facing the back wall is painted white, the others grey to avoid too great a contrast with the ceiling as seen from the desks. The shades are of aluminium sheet painted white outside and matt black inside (to prevent the rooflight from being lit.) The rooflight construction is of interest and incorporates much useful experience. Note the care taken of condensation and the drip at the head of the curb.

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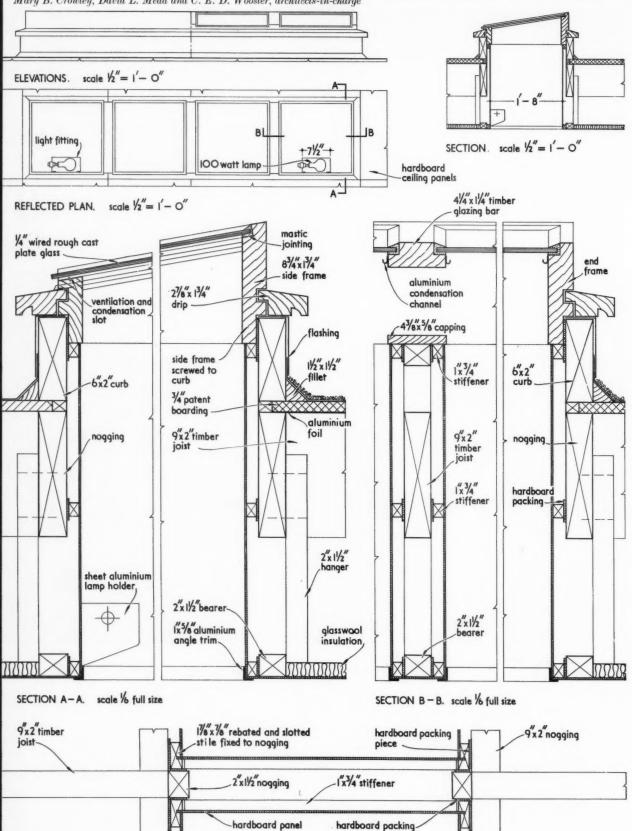
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#### ROOFLIGHTS: SCHOOL AT AMERSHAM, BUCKS

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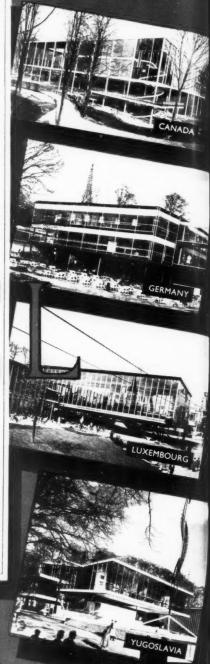




# TEE

AT THE BRUSSELS FAIR















#### MORE FLATTED FACTORIES IN BIRMINGHAM



A second block of flatted factories, designed by Philip Skelcher & Partners, in association with A. G. Sheppard Fidler, the city architect, has recently been opened in Birmingham, at Holloway Head. (The first block was published in full in the AI for February 20.) The new block, smaller and more compact than the first, was designed simultaneously with it and on the same general principles, as the photograph left shows, with curtain walling on the long sides and flank walls clad with a chequerboard pattern of precast concrete blocks in two colours, with windows apparently made by knocking a block out every so often. Since the two blocks were planned at the same time the second can reveal no "lessons" learnt from the first, but as the "flats" are letting rapidly the architects seem to be justified in claiming them as a successful solution in a city of high land values and many trades. General contractors, Torriff Construction Corporation I.td.

# Greenwood's Larder Lights simplify construction and are available in various sizes for instant and easy installation. They are

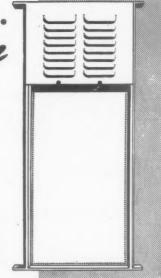
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#### FIRST 8-STOREY FLATS IN WOLVERHAMPTON



This first redevelopment scheme in the centre of Wolverhampton since the war, at Dale Street, was officially opened last week. It is a mixed scheme of 2-storey terrace houses, 3-storey flats, 4-storey maisonettes, and 8-storey flats, providing 232 dwellings, of which half are one-bedroom flats, and costing £430,000. It was designed in the architect's department of the Borough Engineer, H. Schofield (deputy borough architect, A. G. E. Chapman). General contractors, A. F. R. Godfrey & Co. Ltd.

#### Announcements

#### PROFESSIONAL

Philip B. Herbert and Partner, Chartered Architects, have moved to new premises at Fentham Road, Hampton-in-Arden, Solihull, Warwickshire (telephone number 561/2).

Norman Godsmark, A.R.I.B.A., has taken into partnership Alan Miller-Williams, A.R.I.B.A., and in future the firm will be known as Godsmark & Miller-Williams, Chartered Architects and Consultant Designers. The address and telephone number will remain as before.

Mather & Nutter, A/A.R.I.B.A., have moved to Canada House, 3, Chepstow Street, Manchester I (telephone Central 6061 and 3758).

G. Wilkie, M.C.D., B.ARCH., A.R.I.B.A., has moved to The Queen's Park Hotel, Port-of-Spain, Trinidad, West Indies.

#### TRADE

H. V. Smith & Co. Ltd., of London and Edinburgh, have become members of the Natural Asphalte Mine-Owners & Manufacturers Council.

Sanders & Forster Ltd., one of the Chamberlain Group of Companies of 3, Buckingham Palace Gardens, London, S.W.1, have established an overseas office in Accra, Ghana. This office was opened on September 29 and is controlled by Mark Owusu—a Ghanian—who left the Gold Coast in 1952 to study civil engineering in the United Kingdom.

Harrison S. Walton & Son Ltd. have opened their new Leicester Depot at 2, Luther Street, Leicester.

# **Announcing New London Showrooms for**



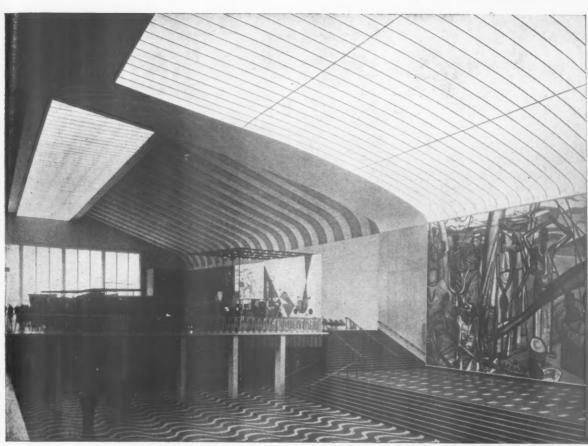
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Part of the Belgian Congo Pavilion which incorporates the largest single Lumenated Ceiling installation in Europe. Some idea of the scope of this installation can be obtained by comparing its size with that of the figures in the foreground.

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# LUMENATED CEILINGS at the Brussels Exhibition

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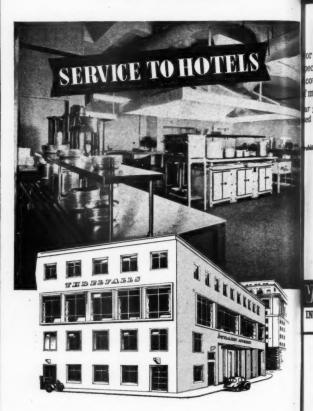
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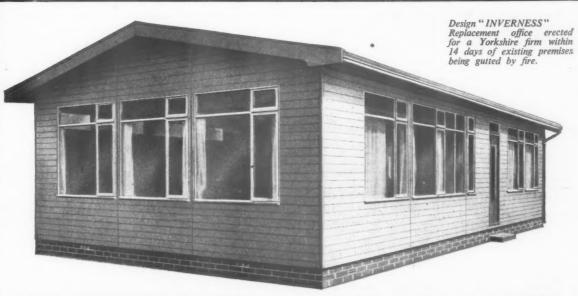
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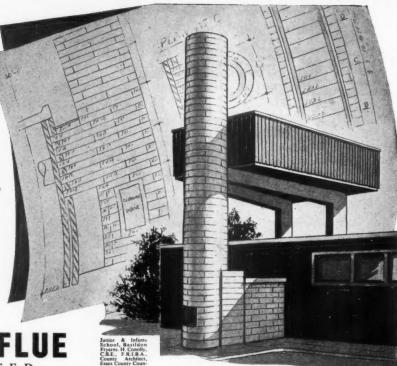
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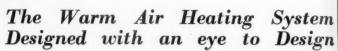
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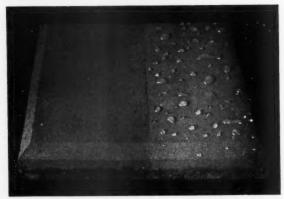
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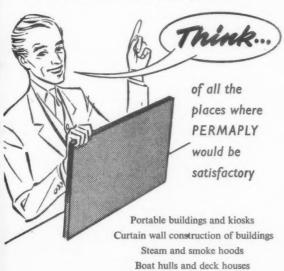
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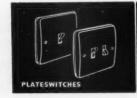
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### OCTOBER

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Cinemain the Pineta; designed by Eugenio M. Rossi, and sited near the Roman Coast, its design involved some ingenious thinking about late-night ventilation in a close, damp climate.





Brick and Concrete at Ham; a detail of wall, floor-slab, ventilator and gargoyle from a new flatted development at Ham Common by James Stirling and James Gowan.

Air Line Office; a tall black column in the new booking offices of Air France in Bond Street; designed by Charlotte Perriand (in collaboration with Peter Braddock), the first work in England of a designer who assisted Le Corbusier on some of his most famous interior work.



### *NOVEMBER*

Sun-screens in Apapa; housing for the Nigerian Ports authority—this, and other recent work in West Africa by Architects' Co-Partnership will be des-cribed and illustrated in the October issue





Toronto Modern: the centra gallery of the Parkin House, Toronto, one of a group of buildings by the outstanding Canadian design office John B. Parkin Associates, illustrated in this issue.

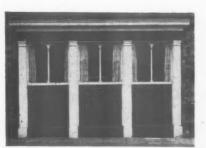


Engineering of Excitement; the covered market-hall in Royan by Simon and Morisseau, one of the buildings discussed by Robin Boyd in his article on the impact of new structural shapes on the architectural invarianties. imaginati

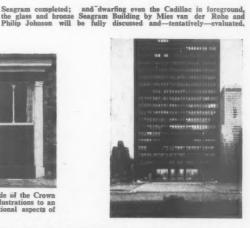
#### DECEMBER



Workshop Annexe: new stores, paint shops, etc., for the Old Vic, ingeniously packed under some awkward daylighting angles by Lyons, Israel and Ellis, and fully illustrated in this issue.



Pub Front: frame and fill on the facade wil the Crown and Mitre, King's Lynn: one of the illustrations to an assessment of the aesthetic and functional aspects of pub exteriors and their future.



alternate years bound in black and white, and alternate volume is 25s. Copies to be bound should be addressed, with volumes initialled A and B, makes easier the identification the appropriate index, direct to the Architectural Press wareof individual volumes, and their proper replacement on the house, Abbey House, 8 Victoria Street, London, S.W.1.

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THE ARCHITECTURAL REVIEW, 9-13 QUEEN ANNE'S GATE WESTMINSTER, S.W.1



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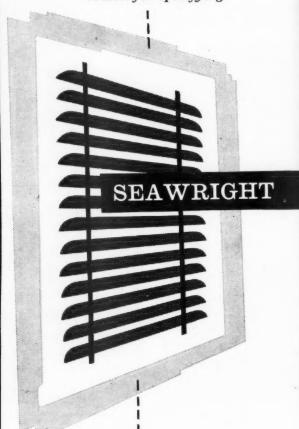
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#### **Public and Official Announcements** 30s. per inch; each additional line, 2s. 6d.

GOVERNMENT OF NORTHERN IRELAND ASSISTANT ARCHITECT CLASS II Applications are invited for pensionable posts in the Chief Architect's Branch, Ministry of Finance. Candidates must be Registered Architects by examination, with at least 2 years' experience in an Architect's Office in the preparation of working drawings. Salary scale 2780 (at age 25)—21,055 (age 34 and over)—21,215. Transfer of existing Pension rights may, in certain circumstances, be approved. Preference will be given ox-Servicemen. Application forms may be obtained from the Secretary, Civil Service Commission, Stormont, Belfast.

1718

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23/2/25/10/57

BUCKS COUNTY COUNCIL
Applications are invited for the appointment of an ASSISTANT ARCHITECT in the County Architect's Department on the Architects' Special scale, 2750-x40(7)-21,030 p.a.
The appointment is superannuable and subject to medical examination.
A weekly allowance of 25s. 0d. and return fare home once every two months may be paid for ix months to newly appointed married officers of the Council unable to find accommodation.
Applications, on forms provided, must be returned by the 8th of November, 1958.

F. B. POOLEY.
County Architect.

Sounty Offices,
Aylesbury.

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT
Vacancies for: (1) ARCHITECTS, Grade III,
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780. The state of the control of the

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FSTATES DEPARYMENT
Applications are invited for the following pointments in the Chief Architect's Section:—
(1) ASSISTANT ARCHITECT at a commencing alary within the Snecial Scale (2750 × 240—250). Annlicants should have passed Parts 1 and 2 of the Final Fxamination of the R.I.B.A. (2) JUNIOR ARCHITECTURAL ASSISTANT the Commencing salary within the General Division Scale (£200—2550).
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weepor and Valuer, Guildhall, Nottingham, by
inday, 14th November, 1958.

T. J. OWEN,

T. J. OWEN.
Town Clerk.

Nottingham.

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polications stating age, present position and
lary, qualifications, experience and names of
or referees to be sent to C. Bacon, F.R.I.B.A.,
wough Housing Architect. Flook House, Station
add. Tannton, hv 16th November, 1958.
Canvassing will disqualify.
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K. A. HORNE.

K. A. HORNE. Town Clerk. nicinal Buildings.

MONMOUTHSHIRE COUNTY COUNCIL APPOINTMENT OF TECHNICAL STAFF Applications are invited for the following posts in the County Architect's Department under the N.J.C. Conditions as follows:—
Six ARCHITECTURAL ASSISTANTS—Special grade for Architectural Assistants, at a salary of £330—£1,030 per annum. Applicants may be appointed on the grade according to their ability. One CHIEF LAND SURVEYOR—Salary £345—£1,025 per annum, A.P.T. III.
Forms of application, particulars of post and conditions of service can be obtained from the undersigned.
Applications, together with copies of three

Applications, together with copies of three testimonials, must be forwarded to Colin L. Jones, F.R.I.B.A. County Architect, Queen's Hill, Newport, Mon., not later than Monday, 10th November 1958.

VERNON LAWRENCE, Clerk of the Council. County Hall, Newport, Mon.

Mon.

MIDDLESEX COUNTY COUNCIL

APPOINTMENT OF COUNTY ARCHITECT
Applications are invited from duly qualified and experienced persons for the full-time and pensionable appointment of County Architect at the approved salary of £3,390 rising by £105 annually to £3,915 p.a. Appointment subject to satisfactory medical assessment and prescribed conditions. Applications, to be made on forms obtainable (with further particulars relating to the appointment) by sending stamped and addressed foolscap envelope to the undersigned, by whom completed applications must be received not later than 20th November, 1958. Canvassing disqualifies.

KENNETH GOODACRE, Clerk of the County Council. 14th October, 1958.

Guildhall, Westminster, S.W.1.

14th October, 1958.

COUNTY COUNCIL OF ESSEX
COUNTY PLANNING DEPARTMENT
Applications invited for the following posts:—
(1) SENIOR PLANNING ASSISTANT. Special
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must have had practical experience in the preparation of development plans in urban areas
and be able to take charge of a small section of
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and research work related to planning regarding
population, industry, employment, education, etc.,
will be an advantage.

Applicants should be Corporate Members of the
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professional institute, or possess a University
Degree in Economics or Geography.
(2) PLANNING ASSISTANT, A.P.T. Grade 1
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Planning and Design Section at Headquarters,
particularly in regard to elevational control and
housing layouts and should have aptitude for an
experience in work of this nature.

Five-day week; day release facilities; medical
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Applications on forms to be obtained from
County Planning Adviser, Broomfield Place,
Broomfield, Chelmsford, to whom they should be
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TOWN PLANNING DEPARTMENT

CORPORATION OF THE CITY OF ABERDEEN TOWN PLANNING DEPARTMENT Applications are invited for the following

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(c) ASSISTANT (DEVELOPMENT CONTROL)
in the Salary Grade £880 to £955 per annum.

(d) PLANNING ASSISTANT in the Salary
Grade £700 to £760 per annum.

Further particulars of these posts are obtainable from the Director of Town Planning, 5, Bon-Accord Crescent, Aberdeen, to whom applications should be submitted on or before 22nd November, 1958.

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Vacancies exist for ARCHITECT'S, Grade II
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ROYAL RURGH OF DUMFRIES
ARCHITECT'S DEPARTMENT
Applications are invited from qualified and experienced Architects for the post of CHIEF ASSISTANT ARCHITECT. Salary Grade, A.P.T. VII (£945—£1.025). Applications, stating age, experience, qualifications and present appointment, together with copies of two recent testimonials, to be lodged with the Burgh Architect, 32, George Street, Dumfries, on or before Inth November, 1958.

Municipal Chambers,
Dumfries.

Municipal Chambers, Dumfries. 21st October, 1958.

BOROUGH OF STOCKTON-ON-TEES
BOROUGH ARCHITECT'S DEPARTMENT
Applications are invited for the following appointments:—
(1) ASSISTANT ARCHITECT. Salary N.J.C. Special Grade (£750 × £40-£1,030).
(2) ARCHITECTURAL ASSISTANT. Salary A.P.T. Grade I or II (£575 × £30-£755 or £725 × £30-£245), according to experience. Forms of application from the Borough Architect, 28, The Square, Stockton-on-Tees, to be returned not later than the 8th November, 1968. Housing accommodation will be available for married applicants.

JOHN B. HAWORTH,
Town Clerk.

Barclays Bank Chambers,

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COUNTY PLANNING DEPARTMENT
Applications are invited from suitable qualified persons for the following posts:—
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(a) SENIOR PLANNING ASSISTANT, (b) PLANNING ASSISTANT, Special Scale (£750—£1.030).

(£750-£1.030). (c) PLANNING ASSISTANT, A.P.T. I (suitable for a graduate in Economics or Geography) (£575-£725).

able for a graduate in Economics of CESTS--E725).

In approved cases loans for house purchase and removal expenses are available, also lodging allowance of 50s. per week for married officers whilst seeking accommodation.

Forms of application, giving further details and returnable by 17th November, from County Planning Officer, "Bellair," Topsham Road, Exeter.

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ning Officer, "Bellair," Topsham Road, Exeter.
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NORFOLK COUNTY COUNCIL
APPOINTMENT OF SENTOR PLANNING
ASSISTANT (DEVELOPMENT CONTROL)
Appolications are invited for the above post on
the Special Scale (4750-42.03) p.a.).
Applicants should have had good previous experience in a County Planning Department, and
preference will be given to those possessing a
recognised qualification in planning, architecture,
engineering or surveying, or a degree in a suitable
subject.
The person appointed will be expected to provide a motor-car, for which the standard allowance will be paid.
The appointment will be subject to one month's
notice on either side.
Applications, including the names of two
referees, should be received by the undersigned
by the 15th November, 1958.

R. I. MAXWELL.
County Planning Officer.
Norwich

41/43, Thorpe Road, Norwich.

Norwich.

CITY OF CARDIFF

APPOINTMENT OF ASSISTANT ARCHITECT
Applications are invited for the following
appointment in the City Architect's Denartment.
ARCHITECTURAL ASSISTANT, A.P.T. Grade
II (2725 × 230-2845 per annum).
Candidates should possess the minimum qualifications and experience prescribed by the
National Joint Council for Local Authorities'
Administrative, Professional, Technical and
Clerical services for posts in the above-mentioned
Grade.
General Conditions of appointment may be
obtained from the undersigned.
Applications, accompanied by the names and
addresses of two referees and endorsed "Architectural Assistant—A.P.T. Grade II," must be
delivered to me not later than 10th November,
1958.

S. TAPPER-JONES.

S. TAPPER-JONES. Town Clerk.

Cardiff.

BRITISH RAILWAYS

JUNIOR SURVEYOR (BUILDING) required.
Applicants should have experience in Building Construction, preparation of specifications and supervision of maintenance work for Estate property. Maximum commencing salary £521 rising by annual increments to £753.
Certain free and reduced rail facilities will be granted.
Aboly in writing to:—District Estate Surveyor. Rritish Railways, Western Region, Central Chambers, 1, Penarth Road, Cardiff.

City Hall. Cardiff.

BOROUGH OF CHELMSFORD
CAPITAL WORKS PROGRAMME
Applications are invited for a JUNIOR ARCHITECTURAL ASSISTANT, Grade A.P.T. I (£575—
£725 p.a.), or Grade A.P.T. II (£725—£846 p.a.).
Starting salary according to experience. Further
particulars may be obtained from the Borough
Surveyor, Municipal Offices, Chelmsford. Closing
date 11th November, 1958. Chelmsio.

B. A. FRANCIS,
Town Clerk.
1813

COUNTY BOROUGH OF GREAT YARMOUTH SCHOOLS ARCHITECT'S DEPARTMENT Applications are invited to fill the vacancy for a temporary JUNIOR ASSISTANT within A.P.T. Grade II (£725-£845). Candidates should have had experience in school construction.

Forms of application may be obtained from F. Jackson, A.R.I.B.A., Schools Architect, 22, Ruston Road, Great Yarmouth, and completed forms must be returned by Monday, 10th November, 1958.

D. G. FARROW,

D. G. FARROW, Chief Education Officer.

22, Euston Road, Great Yarmouth Great Yarmouth.

3847
ACHITECTURAL ASSISTANT required by UGANDA GOVERNMENT PWD on contract for tour of 30-36 months in first instance. Commencing salary according to experience in scale (including Inducement Pay) £879 rising to £1,422 a year. Gratuity at rate 133 per cent. of total substantive salary drawa. Outfit allowance £30. Free passages, liberal leave on full salary. Candidates, under 35, must have passed Intermediate R.I.B.A. and have had good architectural experience. Experience in tropical building problems an advantage. Write to the Crown Agents, 4, Millbank, London, S.W.I., stating age, name in block fetters, full qualifications and experience and quote M2B/50325/AG.

BOROUGH OF EALING

and in block letters, full qualifications and experience and quote M2B/50325/AG.

BURLIDING SURVEYOR, A.P.T. II (£755—2875 inclusive). Experienced in estimating for architectural work and supervision of small building jobs.

(b) ENGINEER FOREMAN, MISC. VI (£715—2775 inclusive). Skilled engineering fitter, experienced in steam and oil-fired boilers, automatic stokers, kitchen machinery and machine tool repairs.

Full particulars and application forms from Borough Surveyor, Town Hall, Ealing, W.5. Closing date 17th November, 1958.

BOROUGH OF HESTON AND ISLEWORTH APPOINTMENT OF GENERAL ARCHITECTURAL ASSISTANT APPLICATION APPOINTMENT OF GENERAL ARCHITECTURAL ASSISTANT APPLICATION architectural Assistant at a salary in accordance with Grade A.P. II (£725 × £30—2846) plus London weighting.

Applicants must have had good experience in architectural design and building work under construction and should have passed the Intermediate examination of the Royal Institute of British Architects.

The Council is unable to assist with housing accommodation.

Applications are to be submitted by November 17th on forms to be obtained from and returned to the Borough Engineer and Surveyor, 88. Lampton Road, Hounlow. Canvassing will disqualify.

D. MATHIESON.

D. MATHIESON. Town Clerk.

Town Hall, Hounslow.

Town Hall,

Hounslow.

1823

NEWCASTLE REGIONAL HOSPITAL BOARD

REGIONAL ARCHITECT'S DEPARTMENT

Applications are invited for the following
permanent (superannable) posts on the staff of
the Regional Architect.

In addition to its normal building programme
the Department is concerned with the planning
and execution of a number of major hospital
projects and the posts offer ample opportunity
for gaining all-round general as well as hospital
experience, and for doing good-class work in an
expanding department.

(1) ASSISTANT ARCHITECT. Salary—£700 ×
£25 (3) × £20 (1) × £35 (6)—£1,015.

Applicants for this post should be registered
architects and should have had practical experience of the planning and construction of public
buildings. In this case the commencing salary
will be fixed within the Grade by reference to
relevant experience and to acc.

(ii) SURVEYING ASSISTANT (Lands and
Buildings). Salary—£252 (at age 21 or over) ×
£20 (4) × £25 (5)—£730.

Applicants for this post should have passed
the Intermediate Examination of the Royal Institution of Chartered Surveyors, or an examination recognized by the Institution as equivalent,
and should be experienced in surveying sites and
buildings. The successful applicant will be
required to assist with the making of a survey
of all hospital sites and buildings in the Region
and the preparing of record plans.

The commencing salary within the grade will
depend upon the applicant's age and the amount
of practical experience.

Applications, stating age, qualification, past
and present appointments, present salary and
details of experience and training, together with
the names of three referees (of whom at least two
should be architects), should be forwarded to the
Secretary to the Board. Benfield Road, Newcastleupon-Tyne, 6, not later than 12th November,
1852

HUNTINGDONSHIRE

COUNTY ARCHITECT'S DEPARTMENT

ARCHITECTURAL ASSISTANT

Applications are invited for the above appointment on the Special Grade (£750-£1,030) or Grade
APT III (£946-£1,025) according to qualifications.
Further details and application forms may be obtained from The County Architect, County Buildings, Huntingdon. Completed application forms should be returned to the undersigned by Monday, 17th November, 1958.

A. C. AYLWARD,

Clerk of the County Council.

County Buildings,

County Buildings, Huntingdon.

CITY OF BIRMINGHAM: PARKS DEPART-MENT OF DRAUGHTSMAN
Applications are invited from suitably qualified persons for the above-mentioned appointment. The salary is in accordance with Miscellaneous Division Grade VI (£765—£765 per annum).
Applicants should have a contemporary outlook and be able to prepare all the necessary drawings and specifications for minor building works.

works.

Applications with full particulars and the names of two referees must reach the undersigned not later than the 7th November, 1958.

G. E. R. ROSS,

General Manager.

Parks Department, Civic Centre, Birmingham, 1.

CITY OF BIRMINGHAM PUBLIC WORKS DEPARTMENT
REDEVELOPMENT SECTION
Vacancy for PLANNING ASSISTANT (RE-SEARCH).
Salary Grade—Special Scale, £750/£1,030 per annum, according to qualifications and experience.

Applicants should be Associate Members of the Town Planning Institute and/or hold a University degree in Economics or Geography.

The appointment is permanent, superannuable, and subject to a medical examination.

Applications, stating qualifications, age and experience, and naming two referees, should reach the undersigned by the 15th November, 1958.

Canvassing disqualifies.

Canvassing disqualifies.

City Engineer and Surveyor.

1929

Civic Centre, Birmingham, 1.

COUNTY BOROUGH OF DERBY
BOROUGH ARCHITECT'S DEPARTMENT
(1) SENIOR QUANTITY SURVEYOR, A.P.T.
Grade IV (£1,025-£1,175 per annum). Qualifications: A.R.I.C.S. (Quantities) or A.I.Q.S. or
A.I.A.S. with appropriate experience.
(2) SENIOR ASSISTANT ARCHITECT, Special
Grade (£750-£1,030 per annum). Qualifications:
A.R.I.R.S.

A.I.A.S.

(2) SENIOR ASSISTANT ARC.

(2) SENIOR ASSISTANT ARCHITECT, A.P.T. Grade I Grade (£750-£1,030 per annum). Qualifications.

AR.I.B.A.

(3) ASSISTANT ARCHITECT, A.P.T. Grade I (£575-£725 per annum). Qualifications: Intermediate R.I.B.A.

Commencing salary according to qualifications and experience.

Permanent superannuable appointments, subject to one month's notice and to medical examination. National Conditions of Service.

Application forms obtainable from and to be returned to the Borough Architect, The Council House, Corporation Street, Derby, not later than Monday, 10th November, 1958.

G. H. EMLYN JONES.

Town Clerk.

HOLLAND COUNTY COUNCIL—LINCOLN-SHIRE
The County Architect requires Architects and Quantity Surveyors to cope with an interesting and varied programme. The work covers a new Technical College, Secondary Modern Schools, Old People's Homes and other interesting projects

Old People's Homes and other interesting projects.

The following staff are required:—
Two ASSISTANT ARCHITECTS, Grade A.P.T.
IV (£1,025-£1,175).
One ASSISTANT ARCHITECT, Special Grade (£750-£1,030).
One JUNIOR ARCHITECTURAL ASSISTANT,
Higher General Division (£230-£560).
One ASSISTANT QUANTITY SURVEYOR,
Grade A.P.T. IV (£1,025-£1,175).
One ASSISTANT QUANTITY SURVEYOR,
Special Grade (£750-£1,030).
The County Council would consider making a contribution towards the cost of removal.
The appointments are subject to the National Conditions of Service. Forms of application obtainable from the County Architect, to be returned by 10th November, 1958, to the undersigned.

H. A. H. WALTER. Clerk of the County Council. County Hall. Boston, Lines.

NORTHAMPTON COUNTY BOROUGH
TOWN PLANNING ASSISTANT, A.P.T.I.

(£675-£725)

Particulars and form of application, returnable by 10th November, may be obtained from Borough Architect, Guildhall, Northampton.

Commencing salary will be within the grade according to qualifications and experience.

C. E. VIVIAN ROWE, Town Clerk.

1860

PADDINGTON BOROUGH COUNCIL
ASSISTANT ARCHITECT (£780 to £1,060).
Starting salary according to qualifications adexperience of the successful candidate, who should preferably be A.R.I.B.A., with experience in the design and supervision of building works of some magnitude and a knowledge of local authority requirements. Applications should state age, qualifications, present and past appointments with dates, names and addresses three referees. Applications should reach me by 19th November, 1958 (quoting A.393).

W. H. BENTLEY Town Hall,

Town Hall,
Paddington Green, W.2.

COUNTY BOROUGH OF GATESHEAD
Applications invited for the following posts in
the Borough Surveyor's Department to work
under the Chief Architect, upon an interesting
programme of educational, housing and multistorey flats and public buildings.
ASSISTANT ARCHITECTS, Special Scals
(£750-£1,030). Applicants must be Registered
Architects and preferably members of the Royal
Institute of British Architects.
In suitable cases housing accommodation will
be made available at an economic rent.
Starting salaries according to qualifications and
experience of applicants.
Posts pensionable, subject to N.J.C. conditions,
medical examination, and one month's notice on
either side.
Applications on forms available from the
Borough Surveyor, Swinburne Street, Gateshead,
8, must be returned within 14 days of this advertisement.

C. D. JACKSON,

C. D. JACKSON, Town Clerk.

Town Hall Gateshead, 8. 17th October, 1958. 1807 at t

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LONDON COUNTY COUNCIL ARCHITECT'S DEPARTMENT Vacancies for ARCHITECTURAL and SUBVEYING ASSISTANTS for varied programme of alterations and improvements to Council buildings. Salary up to £860 according to qualifications and experience. Particulars and application form, returnable by 18th November, from Hubert Bennet, F.R.I.B.A., Architect to Council (Ref. Ek. 1918), County Hall, S.E.I. (2097.)

County Hall, S.E.1. (2097.)

LAMBETH METROPOLITAN BOROUGH
COUNCIL requires ARCHITECTURAL ASSISTANTS in Housing Department. Salary: £7252345 p.a. plus £20/£30 London weighting (A.P.T.
II). Applicants must have passed Intermediate
R.I.B.A. or equivalent and have two or three
years' practical experience.

Work of department includes design and construction of housing estates, including multistorey buildings, and conversion and improvment of older-type residential property. No
housing accommodation provided. Application
form from Town Clerk. Town Hall, Brixton Hil.
S.W.2 (Ref. 31 (a)). Closing date: 15th November.

LONDON COUNTY COUNCIL
ARCHITECT'S DEPARTMENT
Vacancy for ARCHITECTURAL ASSISTANY
with special knowledge of historic buildings (paticularly of seventeenth and eighteenth centuries)
to make measured drawings of outstanding buildings in London for publication in the Surey
of London. Fine draughtsmanship essential
Salary up to £860. Partics. and applicn. for
returnable by 18th Nov., from Hubert Bennett,
P.B.I.B.A., Architect to Council, EK/50/58, The
County Hall, S.E.1. (2105)

EAST SUFFOLK COUNTY COUNCIL
PLANNING ASSISTANT required. Applicant
must have intermediate qualification with experence of development control. Salary withi
Grade I A.P.T. (£575-£725).
Applications giving full particulars and name
and addresses of two referees to County Planning
Officer, County Hall, Ipswich, by 14th Novembet.
1868.

1958.

COUNTY BOROUGH OF GREAT YARMOUTHE EDUCATION COMMITTEE Applications are invited from Associate Members of the R.I.B.A. to fill the vacancy for 1 SENIOR ASSISTANT ARCHITECT, within Special Grade 2750–21,030.

Candidates should have a good knowledge of school, design and construction.

Housing accommodation will be made available to the successful candidate, if married. Further particulars may be obtained from the Schools Architect, 22. Euston Road, Great Yarmouth, to whom applications should be sent and later than the 13th November, 1958.

LEEDS REGIONAL HOSPITAL BOARD
ASSISTANT ARCHITECTS (Three Posts)
Apolications are invited for the above appointments. (Salary scale 2700-21.015 per annum practical experience, but the additional increments granted will not be more than the number of years by which the officer's are exceeds 25.
Apolicants must be Associate Members of the R.I.B.A. The above appointments offer excellent opportunities to young Architects to gain to experience on varied projects in an expanding.

Service.

Acolications, giving age, experience and the Anames of two referees, to the Secretary. Particular Parade, Harrogate, by not later than November, 1958.

BEDFORDSHIRE COUNTY COUNCIL invite applications from QUALIFIED ARCHITECTS for two posts in the Councy Architect's Department which has a programme of sizeable and interesting jobs. Saiary £750-£1,030 p.a. Application forms obtainable from County Architect, Shire Hall, Bedford. Closing date 10th November.

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KUMASI COLLEGE OF TECHNOLOGY (Principal: W. E. DUNCANSON, PH.D., D.SC., F.INST.P., A.M.I.E.E.)
Applications are invited for the posts of:—
(a) EECTURERS IN TOWN PLANNING.
(b) LECTURERS IN TOWN PLANNING.
The School of Architecture, Town Planning and Building.
The School of Architecture, Town Planning and Building.
The School prepares students for the Intermediate Examinations of the R.I.B.A. and of the T.P.I., and negotiations are at present in proress between the School and various bodies in London concerning the Building Technology course for which it is hoped to make similar arrangements.
Qualifications: for (a) Associate Membership of the T.P.I.; for (b) Associate Membership of the T.P.I.; for (b) Associate of the T.P.I.; for (c) Associate Membership of the T.P.I.; for (d) Associate Membership of the T.P.I.; for (d) Associate Membership of the T.P.I.; for (e) Associate Membership of the T.P.I.; for (d) Associate Membership of the T.P.I.; for (d) Associate Membership of the T.P.I.; for (e) Associate Membership of the T.P.I.; for (d) Associate Membership of the T.P.I.; for (e) Associate Membership of the

sion: for both at least three years' practical experience and preferably at least one year's teaching experience.

Appointment may be accepted on contract for five years or on pension or arrangements to continue policies initiated under the F.S.S.U. Scheme might be made by the College.

Contract Salary Scale: (a) £1,230 × £60-£1,950
p.a.; (b) £1,017 los. × £55-£1,787 los., + in each case a gratuity payable at the end of contract at the rate of £12 los. for each month of satisfactory service.

Pensionable and F.S.S.U. Salary Scale: for both (a) and (b) £925 × £50-£1,625. Points of entry according to experience up to a maximum of three at the rate of £50 p.a. per child up to 10 years and £100 p.a. per child over 10 years in full time education up to 21 years. Annual leave with free return first-class passages for the member of staff and, conditional on a mialmum stay in West Myears. Bungalows with basic furniture at low rental are provided. Income tax low.

Applications (six copies) giving age, qualifications, experience and the names of three referees, should be sent to The Council for Overseas Colleges, 12, Lincoln's Inn Fields, London, W.C.2.

Cosing date 17th November, 1958.

Architectural Appointments Vacant ilines or under, 9s. 6d.; each additional line, 2s. 6d. Bee Number, including forwarding replies, 2s. eatre

Bee Number, including forwarding replies, 2s. eatra

RCHITECTURAL ASSISTANTS required.
Starting salary £915 per annum, Glasgow edge, five-day week. Schools, offices, etc. State aperience. Box 1537

INTERMEDIATE ASSISTANTS required for Architect's Office. London Salary £600 to 600. Industrial and Commercial projects. Scope for initiative and responsibility. Box 1696.

WEST END Architects urgently require capable ASSISTANT of Final standard for latereting commercial and industrial work. Minimum four years' London experience. Salary by anangement. Write Box 1710 with full details of telephone WELbeck 6244 for appointment.

ARCHITECTURAL ASSISTANT required for

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A RCHITECTURAL ASSISTANT required for small busy practice, preferably school trained with at least 3 to 5 years office extended with at least 3 to 5 years office extended with at least 3 to 5 years office extended with at least 3 to 5 years office extended with at least 3 to 5 years office extended with a set of training, past experience and standard and present salary to required and present salary to required.

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y Plannin Mark, F.R.I.B.A., 22, United Plane, w.C.2. Itof. November, Market Plane, w.C.2. Itof. A trained with one or two years' office extended with one or two years' office

Obscent, Birmingham. 15.

1689
Posts)
Posts, Office, University, Laboratory and Hospital
Posts, Office, Univ

tee and the ACHITECT'S ASSISTANT required of Inter-ter, Pan belly Stevens and Partners, 49, Havelock Road, 1855

DURLES & NEWTON require ARCHITEC-TURAL ASSISTANTS in their London and Southend-on-Sea offices. Interesting and varied practice, including churches, schools, housing, etc. Some experience necessary, B.I.B.A. Final standard. Age about 23-30. Reply, giving details of experience and salary required, to 25, Bed-ford Row, W.C.1, or to Weston Road, Southend-on-Sea. 1785

standard. Age about 25-30. Reply, giving details of experience and salary required, to 25. Bedord Row, W.C.I., or to Weston Road, Southendon-Sea.

RCHITECTURAL ASSISTANT required up to Intermediate standard, good draughts-maship essential. Salary by arrangement. Vigers & Co., Architects, 4, Frederick's Place, Old Jewry, London, E.C.2.

SENIOR and INTERMEDIATE ASSISTANT'S are invited to join an expanding Architect's practice in Edgbaston, Birmingham, which offers exceptional prospects. Box 1762.

SENIOR and JUNIOR ARCHITECTURAL ASSISTANT'S quired for varied range of Contemporary work in Knightsbridge Office of moderate size. Write with details of experience, salary required, etc., to Box 1771.

RCHITECTURAL ASSISTANT required in the Chief Architect's office of a large Multiple retail firm with offices in London. Fiveday week, pension scheme, dining room. Applicants should state age, qualifications, experience and salary required. Box 1767.

TECHNICAL ASSISTANT required in Surveying Department of Cardiff Office. Applicants must be members of a recognised professional institute with experience of management of scattered properties of all types but mainly industrial. Preferably such experience should cover maintenance and small new works, in addition to general estate matters such as purchases, sales, leases and rating, but an applicant whose experience is primarily in either building or estate work would be considered. Salary range £1,020-£1,075 per annum. Applications giving age, experience and dualifications, and have good experience in contemporary design. Salary by arrangement (not less than edged as to cost research, and the minimising of variations during construction. Must be conversant with layout and engineering considerations, and have good experience in contemporary design. Salary by arrangement (not less than edged as to cost research, and the minimising of variations during construction. Must be conversant with layout and engineering considerations, and have good experience in contemporary design. Sal

A RCHITECTURAL ASSISTANT, experienced and with initiative, required by South Wales office of Chartered Architect engaged on interesting general work. Write with details of age, experience and salary required to Box 1818.

A RCHITECTURAL ASSISTANTS required for large schemes of contemporary character. Excellent opportunities to suitable applicants. Five-day week. Please write giving full particulars of experience and salary required to Johns, Slater & Haward, F./A.R.I.B.A., 32, Foundation Street, Ipswich.

JUNIOR ASSISTANT required for West End Architects' office. Good draughtsmanship essential; experience of industrial work an ad-vantage. Salary by arrangement. Write Box 1815.

ENIOR ASSISTANT ARCHITECT for busy practice in WR. Yorkshire. Engaged mainly on Schools, Public Houses and general work. Person appointed must be quick and neat draughtsman and be able to take charge of small Drawing Office. Housing accommodation available. Apply giving full particulars and salary required to Dyson, Cawthorne and Coles, 25, Regent Street, Barnsley.

A DESIGNER with architectural experience, imagination and progressive ideas required. Apply Trehearne & Norman, Preston & Partners, Architects & Surveyors, 83, Kingsway, W.C.2. HOL 4071.

A RCHITECTURAL ASSISTANTS required with office experience for varied and interesting work. Pension scheme available. Write stating experience and salary required to Ernest J. Thomas, Jolly & Grant, 26 Kent Road, Southsea, Hants.

Sea, Hants.

SISTANT ARCHITECT required for varied work, should be qualified or near Final standard. Pension scheme available. Write with details training and salary required. T. H. Johnson & Son, FF./R.I.B.A., 20, Priory Place, Doncaster.

INTERMEDIATE ASSISTANT with office experience required London Office, varied work.
Preference given to applicants actively studying
for Final. Study time allowed by arrangement.
Box 1825.

A SSISTANT required in busy West End practice, about 25 years of age and R.I.B.A. Intermediate standard. Good opportunities for taking responsibility. Please write giving details of experience, and salary required. Box 1868.

NEWMAN, LEVINSON AND PARTNERS require EXPERIENCED ARCHITECTURAL ASSISTANTS, with knowledge of commercial and industrial work in London Area. Candidates should be capable of taking control of jobs. Write stating experience and commencing salary required to 9, Mansfield Street, London, W.I., or telephone LANgham 9253/4.

UALIFIED ARCHITECT required by Builders engaged on large scale domestic estate development in the South. Must have had wide experience of estate layout and design of properties in the £2,000 to £6,000 price range. Would be expected to control existing Drawing Office staff. Give full particulars of qualifications, experience, training, etc., and salary required. Box 1834.

A RCHITECTURAL ASSISTANT of Intermediate Standard required for busy practice near London. Applicants should write, giving full details of education and experience, and state salary required. Tooley and Foster, Midland Bank Chambers, Buckhurst Hill, Essex.

A RCHITECTURAL ASSISTANTS required in busy progressive practice in Middlesbrough carrying out interesting and varied work. The salary payable will be according to qualifications and experience within the range £700—£900 p.a. Apply in writing stating age and details of previous experience to Box 1801.

OJALIFIED ASSISTANT required. Experience of London practice essential. Write giving brief particulars and salary required. Box 1798.

WANTED. ARCHITECTURAL ASSISTANTS, qualified and Intermediate standard, for posts in Huddersfield or Shrewsbury Offices. Interesting responsible work—Schools, Factories, Hospitals, Churches, etc. Pension Scheme. Abbey & Hanson, 11, Cloth Hall Street, Huddersfield. Tel. 225.

NORMAN JONES, SONS & RIGBY require ARCHITECTURAL ASSISTANTS, good draughtsmen, sound knowledge of building construction, able to produce working drawings, surveys, etc. Salary ranges £750—£800 and £600—£700. Please write stating age, experience, etc. to 271 Lord Street, Southport, Lancashire. 1846

A SSISTANT ARCHITECTS. Recently qualified men or those near Finals required in the Architect's Department of Richard Costain Ltd. Permanent and pensionable post. Apply to Assistant Personnel Officer, 111, Westminster Bridge Road, London, S.E.1.

A RCHITECTURAL ASSISTANT required for small office with varied practice. Five-day week. Please write, stating age, training, experience and salary required. Alexander Graham, F.R.I.B.A., 15, The Tything, Worcester.

MORRISON AND PARTNERS have vacancies at their Derby Office for ASSISTANTS of Intermediate and Final standard to work on a varied programme of an interesting and progressive nature. School trained men are preferred. Salaries by arrangement. Apply to St. Alkmunds House, Belper Road, Derby.

BUCKINGHAMSHIRE firm of Architects within 30 miles of London with a varied practice require an ARCHITECTURAL ASSISTANT at Final R.I.B.A. standard. Five-day week. Salary according to age and experience. Please write giving full particulars to Box 1851.

The giving full particulars to Box 1851.

IBM UNITED KINGDOM LTD. need an ARCHITECTURAL ASSISTANT for their Design Department.

Essential requirement is an interest in the assessing the usefulness of new developments in Architectural materials, a logical approach to design and a real interest in typography.

Applications giving complete details please to the Personnel Manager, 101, Wigmore Street, London, W.1., quoting reference Db/58.

INEPERICK GIBBERD has vacancies at

REDERICK GIBBERD has vacancies at Harlow for JUNIOR ASSISTANT ARCHITECTS (Qualified) and ARCHITECTURAL ASSISTANTS (Intermediate standard). Work includes Technical Colleges, Offices, Laboratories, Public Bulldings and Housing in the Provinces and in Harlow, Houses and Flats available, Please apply in writing to Frederick Gibberd, 19, The Rows, Stone Cross, Harlow, Essex. 1865

A RCHITECTURAL ASSISTANT (Intermediate R.I.B.A. or equivalent) required for position in Architect's Dept. of multiple firm in London. Five-day week. Canteen facilities. Superannuation scheme. Apply in writing stating age, experience and salary required. Box 1867.

RONALD WARD & PARTNERS required. Box 1867.

RONALD WARD & PARTNERS required. ASSISTANTS with contemporary outlook, and willing to use own initiative. Salary range £500 to £900. Congenial working conditions. Five-day week. Apply 29, Chesham Place, Belgrave Square, S.W.I. Telephone Belgravia 3361.

ARCHITECTURAL ASSISTANT of Intermediate R.I.B.A. standard required in Reading Office. Applicants must be good draughtsmen, able to make surveys, produce working drawings and details. Must be used to working in a provincial office. Apply in writing, stating experience and salary required to Box 1869.

Architectural Appointments Wanted 4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra A RCHITECTURAL ASSISTANT, profession-ally trained office experience, seeks post authority, estate firm, as Maintenance Surveyor or similar work. Box 1756.

A. R.I.B.A., 3 years' office experience, seeks responsible position in small office. Country town preferred. References. Own car. Box 1828.

A. R.I.B.A., 35, last four years in provincial in or near London or Kent. Nine years' usual varied experience on schools, pubs, housing and alterations, including staff and site supervision.

A SSOCIATE in London (43) seeks responsible position, school trained, varied experience, private firm preferred. Box 1826.

A SSOCIATE, aged 33, married, 9 years' varied experience as Senior Assistant in good office, requires post with prospects. Particular interests in restorations, ecclesiastical, and domestic work. Car owner-driver. Box 1833.

POSITION with progressive London office sought by asst. with following trg. and exp.: 4 yrs. bldg, sch./art coll., 2 yrs. military foreman of works, 5 yrs. recognised London Day School. Design and wkg. drg, prizewinner. 44 yrs. post-school experience in landscape, sculpture, design. specn. writing, gen. office practice, sitework and services. Own transport. Box 1858.

Other Appointments Vacant

4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra JOINERY SHOP ASSISTANT FOREMAN of good all-round experience, desirable age 30-35, required by Manufacturing Company in S.E. London area. Pensionable Staff Appointment offering attractive commencing salary and progressive opportunity. Apply, giving full particulars, Box 1729.

A RCHITECTURAL DRAUGHTSMAN up to Intermediate standard required for firm in Westminster. Five-day week, bonus and pension schemes. Please write Box 1841.

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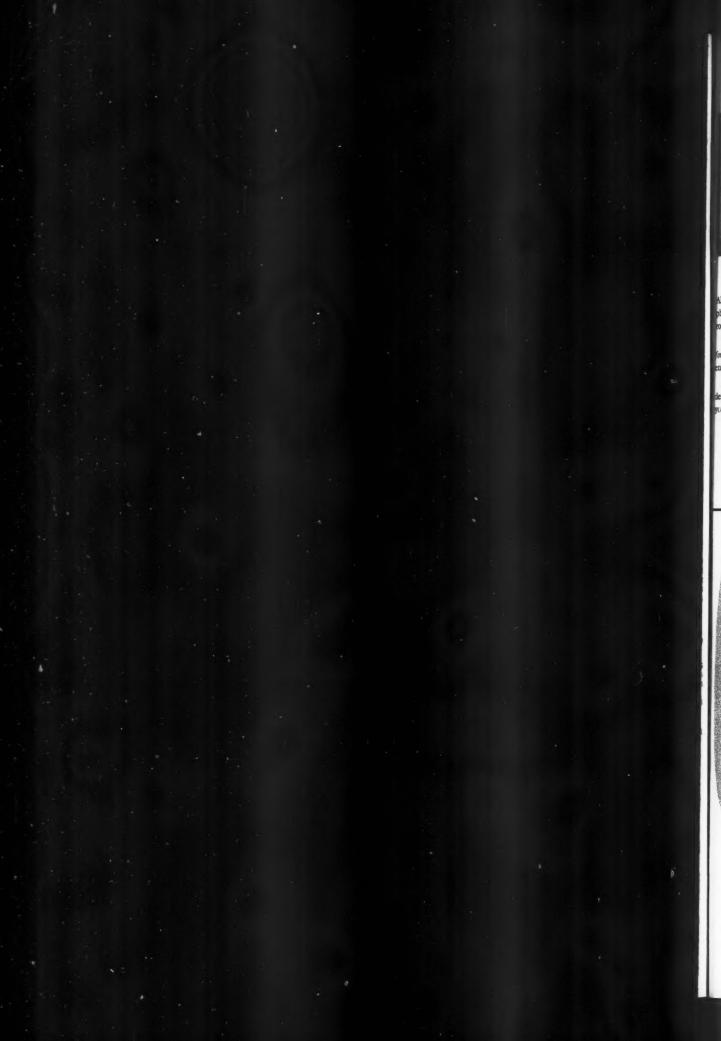
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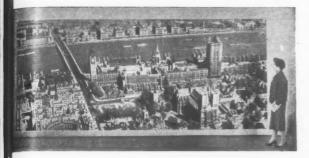
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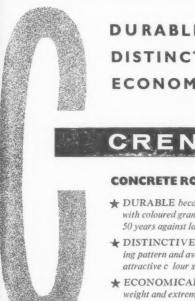
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